

Technical Announcement					
Issued by	IMSBU HMI	Author	Po-Sheng Chen	Security Classification	☒ General ☐ Confidential
Issue No.			Release Date		
Recipient	Product Manager, BU Sales Representative, and Global Service Partners				

Subject:

Release information about the application software DOPSoft 4.00.08.15 for the DOP series products.

- For the DOP-100 series models, the firmware version is updated to 1.0102-1.p2 and the operating system is updated to 1.0396.

Description:

1. Applicable models: DOP-100 series
2. Common issues
 - 2.1. Frequent issues when downloading screen projects from the DOPSoft.
3. Corrected items
 - 3.1 Fix the issue that the DOPSoft displays “Kernel file can’t be opened” or “Create Firmware Fail!” when you download the screen projects to the HMI.
 - 3.2 Fix the issue that the HMIs may crash if you download two DOPSoft screen projects to two different HMI models simultaneously.
 - 3.3 Fix the issue that the HMI may freeze if you change the USB communication mode in the System Setting screen and immediately press  and  to go back to the project screen.
 - 3.4 Fix the issue that the curve does not display when the value read by the Historical Trend Graph function equals the maximum value set for data sampling.
 - 3.5 Fix the issue that the exported CSV file of the Alarm History Table does not include the alarm numbers.

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- 3.6 Fix the issue that you cannot enter characters with the keypad when the Popup Control Addr. of the Barcode Input element is set.
- 3.7 Fix the issue that the Lua command "link.ReadDW" reads the value incorrectly when the value is greater than 65535.
- 3.8 Fix the issue that the HMI may freeze if loading a large amount of alarm data from an external device.
- 3.9 Fix the issue of when you use the SMTP function, the displayed value in the e-mail message is incorrect if the data format is Floating.
- 4. Added items
 - 4.1 Add the QR code display element.
 - 4.2 Add the Barcode element.
 - 4.3 Add the Multi-line text input element.
 - 4.4 Add the system parameters SMTP_STATUS and SMTP_INFO.
 - 4.5 Add the word swap function to the Numeric Entry element.
 - 4.6 Add the function of mapping data to the external memory address to the Modbus TCP mapping table.
 - 4.7 Add the FileSlot related macro commands.
 - 4.8 Add the Text List element which supports FileSlot file editing.
 - 4.9 Add the function of adjusting the field width of the Alarm History Table element.
 - 4.10 Add the functions of Enable Value, high / low limit setting for the curve, and the data type Double Word to the X-Y Chart element.
 - 4.11 Add the ENRCP Viewer element.
 - 4.12 Add the function of changing the connection port of VNC in the HMI system menu.
 - 4.13 Add the OPC UA Server function.
 - 4.14 Add the function of using the screen logo created by [Create Screen Data File ...] and [Create Auto Update Data File] as the startup screen.
- 5. Add supported communication protocols
 - 5.1 Add the communication protocols of Delta ES3 PLC, Delta ES3 PLC TCP, and CODESYS.



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Newsletter

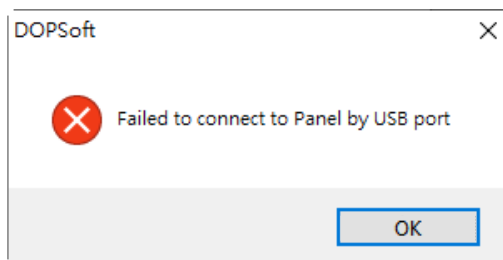
6. Add supported printers
 - 6.1 Add the EPSON LX-310 (9-pin) printer and the Micro Printer SPRT TL21 thermal barcode printer.
7. Website to download the software:
<http://www.deltaww.com/services/DownloadCenter2.aspx?secID=8&pid=2&tid=0&CID=06&itemID=060302&typeID=1&downloadID=&title=&dataType=8;&check=1&hl=en-US>

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2.1. Frequent issues when downloading screen projects from the DOPSoft.

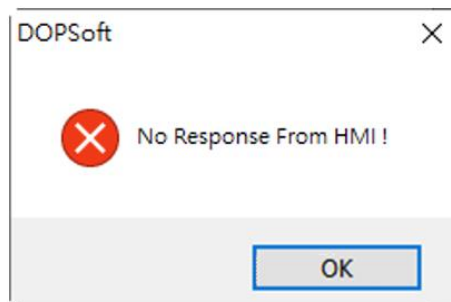
Users reported that the DOPSoft displays several error messages when downloading the .dpa screen projects to the HMI. The following describes each error message in detail.

1. The error message “Failed to connect to Panel by USB port” means that you have set the USB Comm. Mode to DISK on the HMI. In this mode, the computer cannot write data to the HMI, which may be caused by the damaged disk of the computer or the use of the Windows 7 32-bit operating system.



Corrective actions:

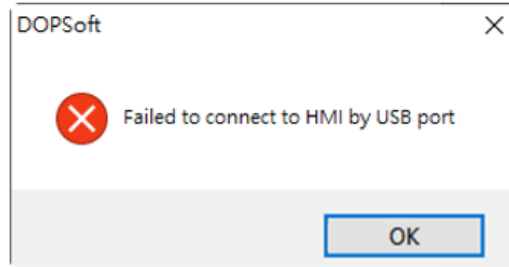
- ✓ Set the USB Comm. Mode to CDC.
 - ✓ It is recommended to use the Windows 10 operating system because using the Windows 7 operating system may lead to some unresolvable issues.
2. The error message “No Response From HMI !” means that you have set the USB Comm. Mode to DISK on the HMI. In this mode, the computer cannot write data to the HMI, which may be due to the antivirus software or the computer’s USB write protection is enabled to prevent writing data to an external USB device.



Corrective action: set the USB Comm. Mode to CDC.

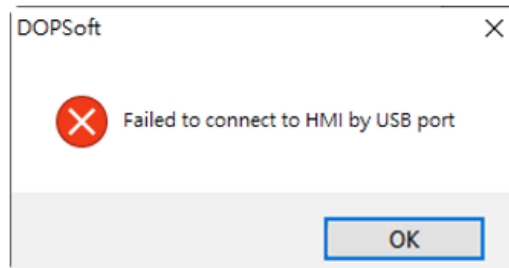
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3. The error message “Failed to connect to HMI by USB port” means that you have set the USB Comm. Mode to CDC on the HMI. In this mode, the computer cannot write data to the HMI, which may be caused by the failed CDC driver installation.



Corrective action: in DOPSoft, go to [Options] > [Environment] > [Uninstall HMI USB Driver] > [Reinstall HMI USB Driver] to reinstall the driver.

4. The error message as shown in the following figure means that the remaining storage space of the HMI is insufficient for downloading the required files.

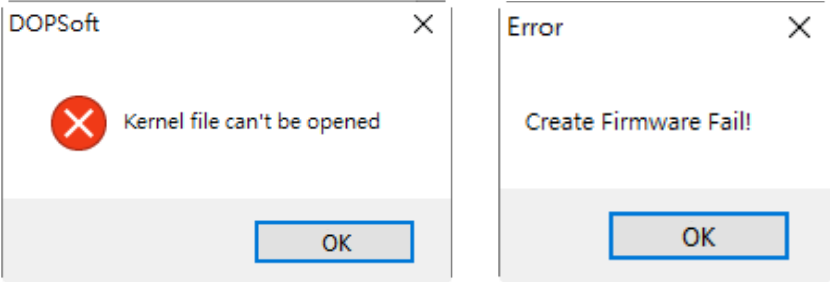


Corrective action: in DOPSoft, go to [Tools] > [Firmware Update] to update the firmware.

Then, go to [Tools] > [Download All Data] to download the screen projects to the HMI.

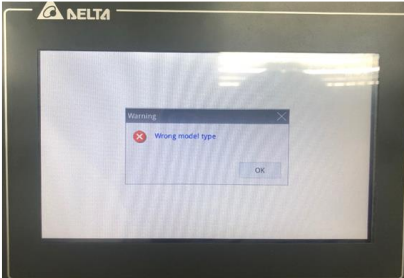
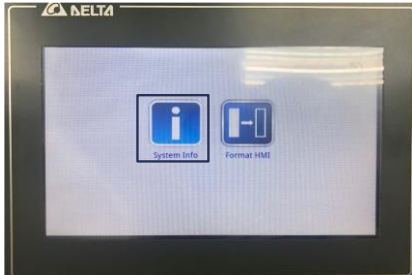
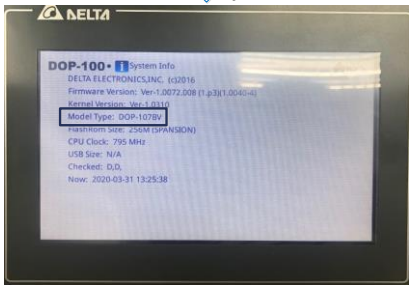
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3.1. Fix the issue that the DOPSoft displays "Kernel file can't be opened" or "Create Firmware Fail!" when you download the screen projects to the HMI.

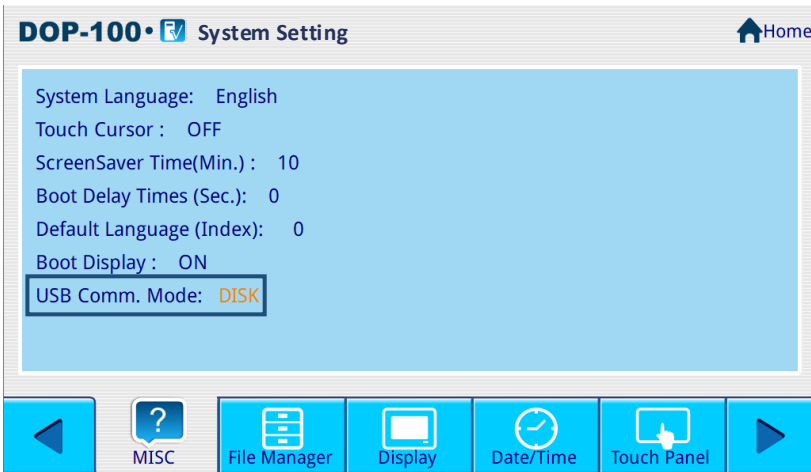
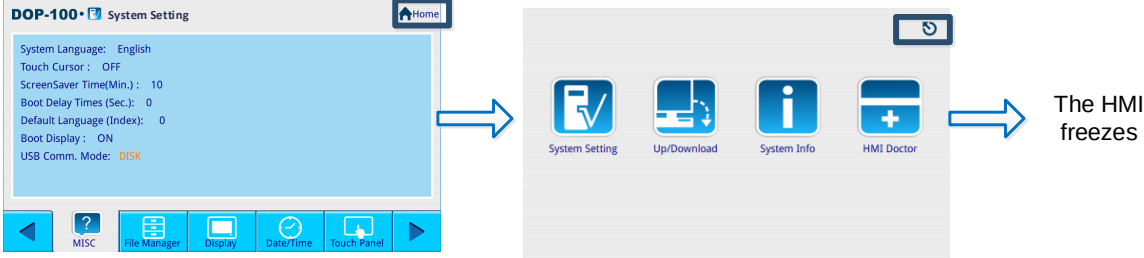
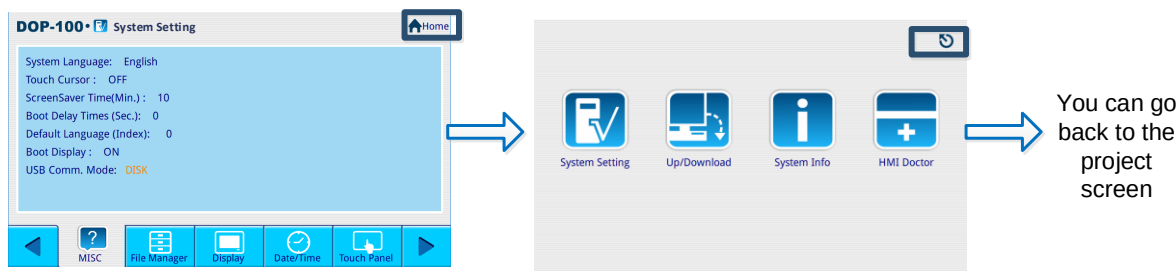
Before	In DOPSoft, go to [Tools] > [Download All Data] to download the screen projects to the HMI, and the DOPSoft displays "Kernel file can't be opened" or "Create Firmware Fail!" 
After	The DOPSoft 4.00.08.15 or above versions do not display "Kernel file can't be opened" or "Create Firmware Fail!" when you download the screen projects to the HMI.

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3.2. Fix the issue that the HMIs may crash if you download two DOPSoft screen projects to two different HMI models simultaneously.

Before	When you open two or more DOPSoft projects on the computer and download the screen projects to two different HMI models simultaneously, the model types displayed on the HMIs are changed and thus the HMIs crash.  Press OK to enter the system menu.  Press System Info to check the system information.  The model type displayed in System Info does not match the actual model type, which causes HMI crash and thus the screen projects cannot be downloaded.
After	When you download two screen projects from DOPSoft 4.00.08.15 or above versions to two different HMI models simultaneously, the HMIs do not crash. However, it is recommended to download the projects to the HMIs one at a time.

- 3.3. Fix the issue that the HMI may freeze if you change the USB communication mode in the System Setting screen and immediately press  and  to go back to the project screen.

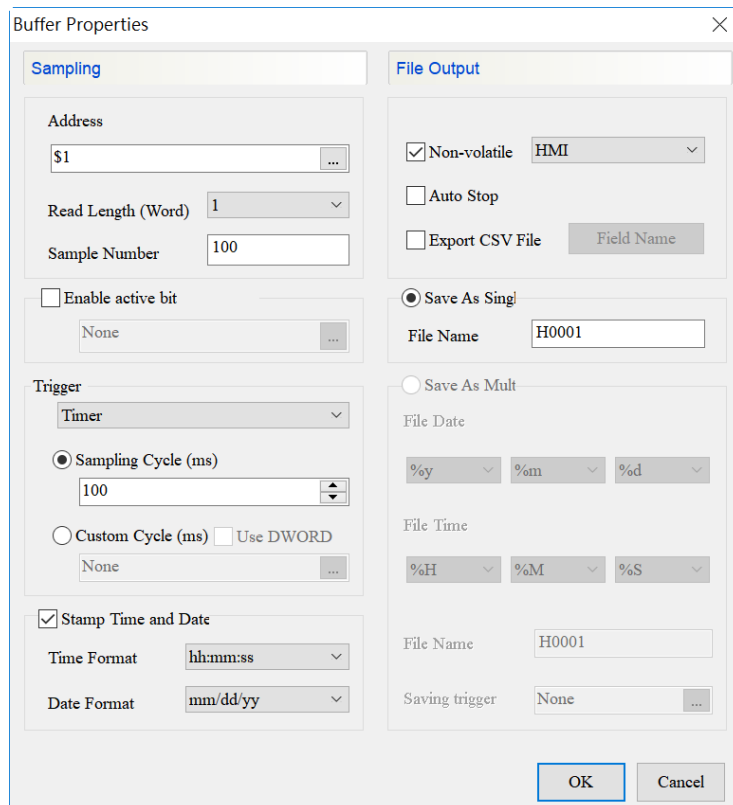
Before	Step 1: press and hold the HMI screen for 3 seconds to go to [System Menu] > [System Setting] > [MISC] to change the USB Comm. Mode.  Step 2: after changing the USB Comm. Mode, if you press  and  to go back to the project screen, the HMI may freeze.  The HMI freezes
After	The HMI works normally after you change the USB Comm. Mode and press  and  to go back to the project screen.  You can go back to the project screen

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- 3.4. Fix the issue that the curve does not display when the value read by the Historical Trend Graph function equals the maximum value set for data sampling.

Before

Step 1: in DOPSoft, go to [Options] > [History Buffer Setup] to set the Buffer Properties with the Address as \$1.



The image shows the 'Buffer Properties' dialog box in DOPSoft. It is divided into two main sections: 'Sampling' and 'File Output'.

Sampling Section:

- Address:** \$1
- Read Length (Word):** 1
- Sample Number:** 100
- Enable active bit:** ☐ (None)
- Trigger:**
 - Timer: [Dropdown]
 - ☒ Sampling Cycle (ms): 100
 - ☐ Custom Cycle (ms) ☐ Use DWORD (None)
- Stamp Time and Date:** ☒
 - Time Format: hh:mm:ss
 - Date Format: mm/dd/yy

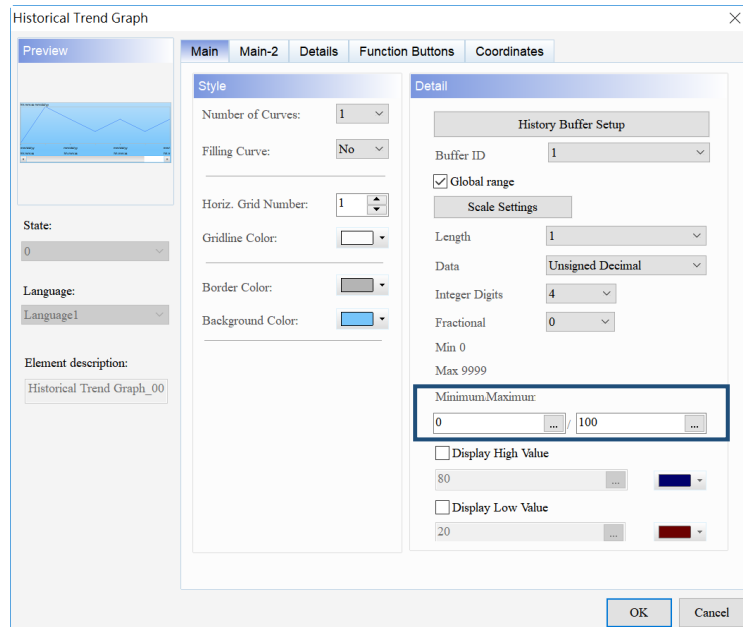
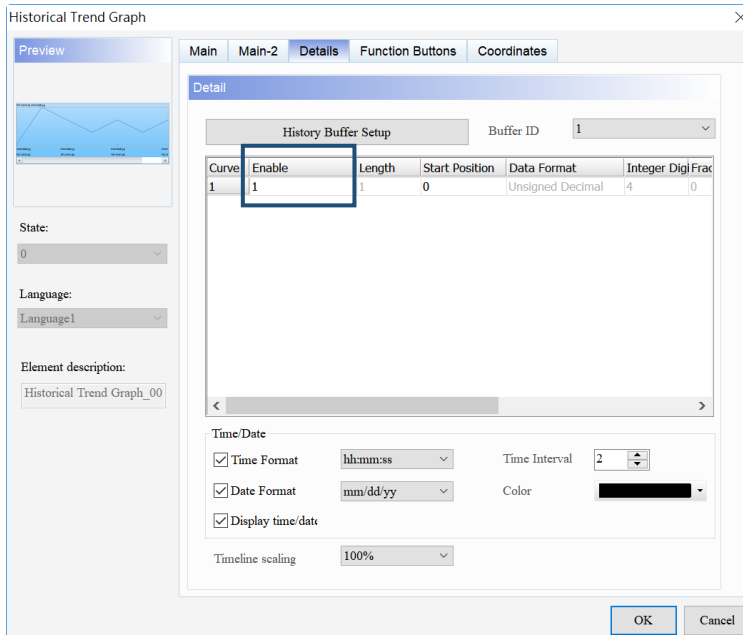
File Output Section:

- Non-volatile:** ☒ (HMI)
- Auto Stop:** ☐
- Export CSV File:** ☐ (Field Name)
- Save As Single:** ☒
 - File Name: H0001
- Save As Multi:** ☐
- File Date:** %y %m %d
- File Time:** %H %M %S
- File Name:** H0001
- Saving trigger:** None

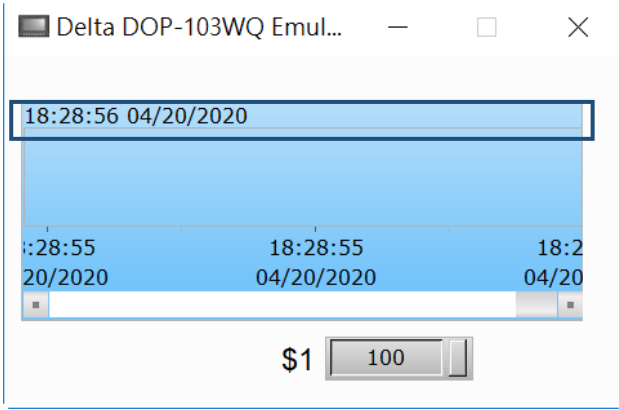
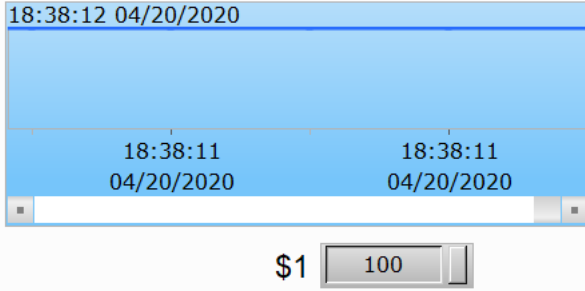
Buttons: OK, Cancel

Step 2: create a Historical Trend Graph element. On the Main tab, set the Minimum/Maximum to 0 and 100 respectively. On the Details tab, set Enable to 1 to enable the sampling function.

Before

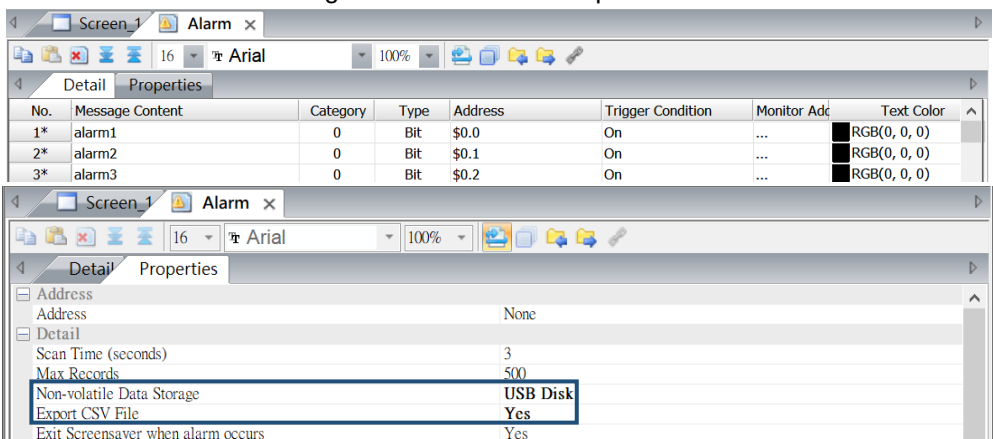
Step 3: create a Numeric Entry element and set the Write Address to \$1.

Before	Step 4: after creating these elements, download the project to the HMI. Enter "100" to \$1 and the curve is not displayed because the input value equals the maximum value set for data sampling. 
After	The curve is displayed when the input value equals the maximum value set for data sampling. 

3.5. Fix the issue that the exported CSV file of the Alarm History Table does not include the alarm numbers.

Before

Step 1: in DOPSoft, go to [Options] > [Alarm Settings] to set the alarms. On the Properties tab, set Non-volatile Data Storage to USB Disk and Export CSV File to Yes.



Step 2: create three Maintained buttons and set the Write Addresses to \$0.0, \$0.1, and \$0.2 respectively.

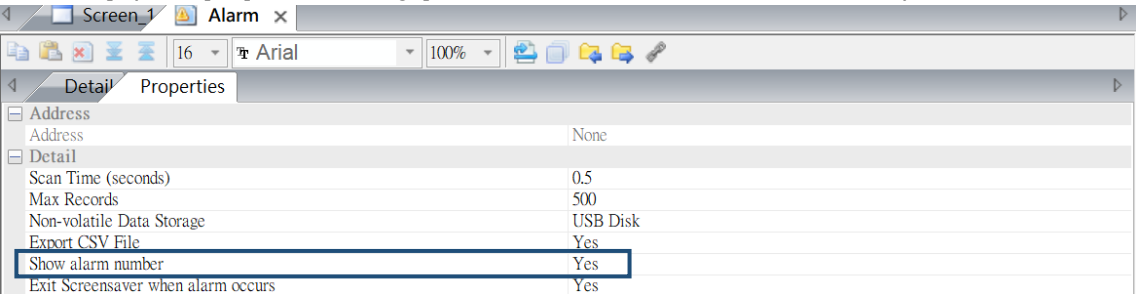
Step 3: after creating these elements, download the project to the HMI. Press the Maintained buttons **\$0.0**, **\$0.1**, and **\$0.2** to trigger the alarms. Then, the HMI exports the alarm data to the USB disk in CSV format.

Step 4: the CSV file in the USB disk does not include the alarm numbers.

	A	B	C	D	E	F	G	H
1	Group No	Trigger Time		ACK Time		Recovery Time		Message
2	0	2020/4/17	10:49:00					alarm3
3	0	2020/4/17	10:49:00					alarm2
4	0	2020/4/17	10:49:01					alarm1

After

■ Go to [Options] > [Alarm Settings] and set Show alarm number on the Properties tab.



After

- When you set Show alarm number to Yes, the exported CSV file includes the alarm numbers. When you set Show alarm number to No, the alarm numbers are not displayed.

	A	B	C	D	E	F	G	H	I
1	Group No	Trigger Time		ACK Time		Recovery Time		Alarm No	Message
2	0	2020/4/17	10:55:23					3	alarm3
3	0	2020/4/17	10:55:25					2	alarm2
4	0	2020/4/17	10:55:25					1	alarm1

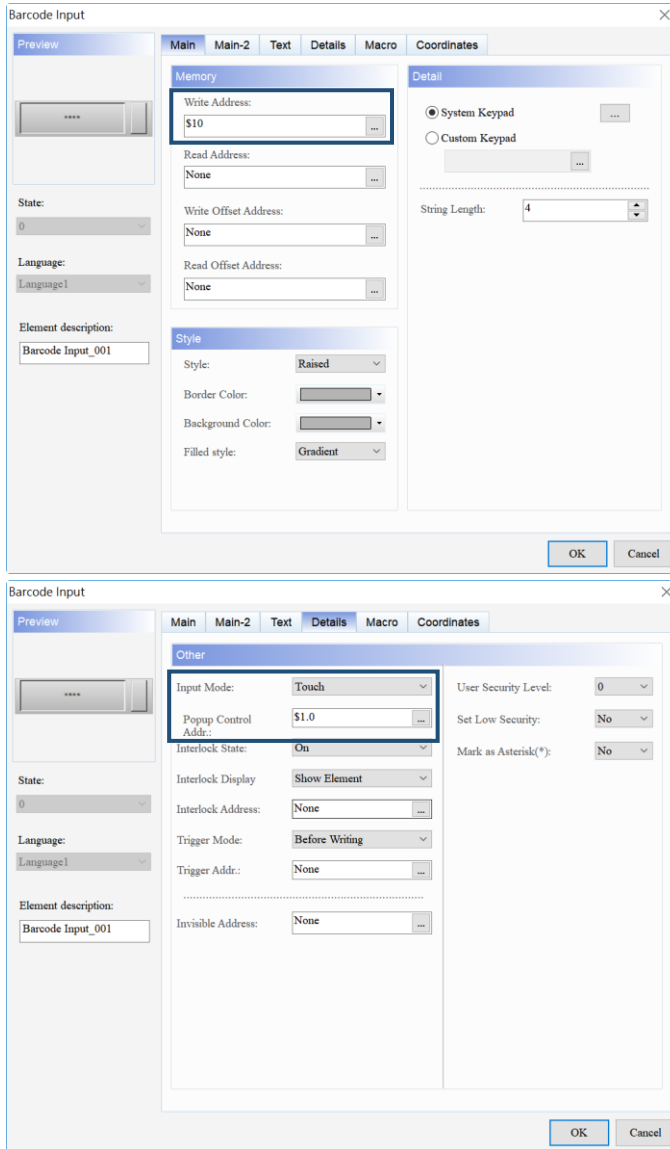
Note: the default setting for Show alarm number is No. If you use DOPSoft 4.00.08.15 or above versions to open a project created by DOPSoft 2.00.07 which runs on the DOP-B series models, the default setting would be Yes.

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3.6. Fix the issue that you cannot enter characters with the keypad when the Popup Control Addr. of the Barcode Input element is set.

Before

Step 1: create a Barcode Input element and set the Write Address to \$10. On the Details tab, set the Input Mode to Touch and Popup Control Addr. to \$1.0.



The image shows two screenshots of the 'Barcode Input' configuration dialog. The top screenshot shows the 'Memory' tab with 'Write Address' set to '\$10'. The bottom screenshot shows the 'Details' tab with 'Input Mode' set to 'Touch' and 'Popup Control Addr.' set to '\$1.0'.

Step 2: create a Maintained button and set the Write Address to \$1.0.

Step 3: press the Barcode Input element and then the Maintained button **\$1.0**, and the keypad appears on the HMI. However, no string is displayed in the input field when you press the keys.

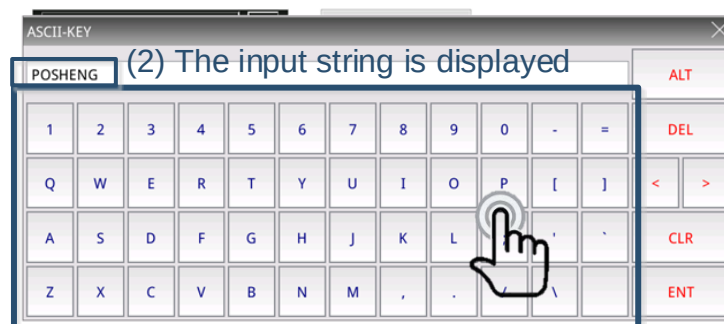
Before



(1) Press the keys

The input string is displayed in the input field.

After



(1) Press the keys

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3.7. Fix the issue that the Lua command “link.ReadDW” reads the value incorrectly when the value is greater than 65535.

Step 1: on the Main tab in the Lua editor, write and run the code as shown in the following figure.

```

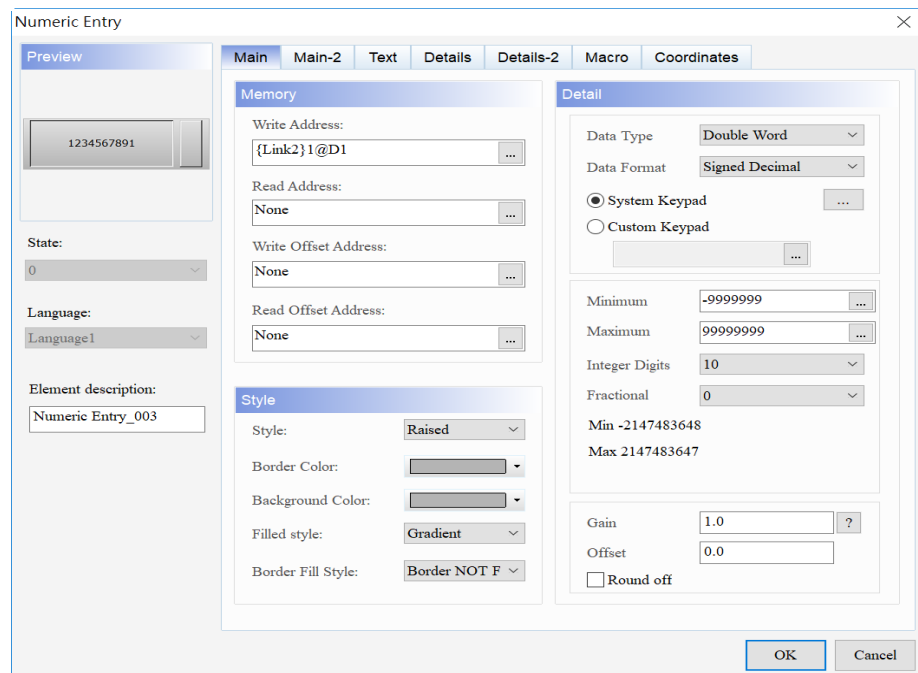
5 while true do
6
7     if (mem.inter.ReadBit(0, 0) == 1) then
8         CurrentPuu = link.ReadDW("{Link2}1@D1", "signed")
9     end
10
11     sys.Sleep(250)
12
13 end

```

Lua code description: when \$0.0 is 1, use the command “link.ReadDW” to read the external memory address {Link2}1@D1, and the read value is the variable CurrentPuu, which is a signed number with the data type as Double Word.

Step 2: create a Numeric Entry element and set the Write Address to the external memory address {Link2}1@D1, Data Type to Double Word, and Data Format to Signed Decimal.

Before



Step 3: after creating the element, download the project to the HMI. The value displayed on the Numeric Entry element is 1700080 which is greater than 65535, but the value read by the Lua command is incorrect.

Before

The image shows two rectangular HMI elements. The left element is a numeric entry field with a light gray background and a thin border, containing the text '1700080'. To its right is a smaller, narrower vertical element. Further to the right is another rectangular element with a light gray background and a thin border, containing the text '\$0.0'.

A blue arrow pointing downwards, indicating a transition or action.

Watch variable				
Name	Value	Global / Local	Type	Format
CurrentPuu	-3856	Global	Number	DEC

The Lua command “link.ReadDW” correctly reads the signed number with the data type as Double Word.

After

The image shows two rectangular HMI elements. The left element is a numeric entry field with a light gray background and a thin border, containing the text '1700080'. To its right is a smaller, narrower vertical element. Further to the right is another rectangular element with a light gray background and a thin border, containing the text '\$0.0'.

A blue arrow pointing downwards, indicating a transition or action.

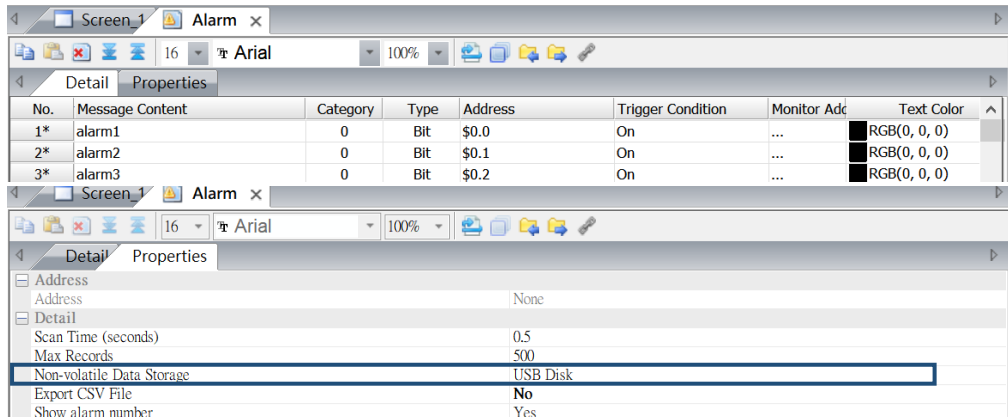
Watch variable				
Name	Value	Global / Local	Type	Format
CurrentPuu	1700080	Global	Number	DEC

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3.8. Fix the issue that the HMI may freeze if loading a large amount of alarm data from an external device.

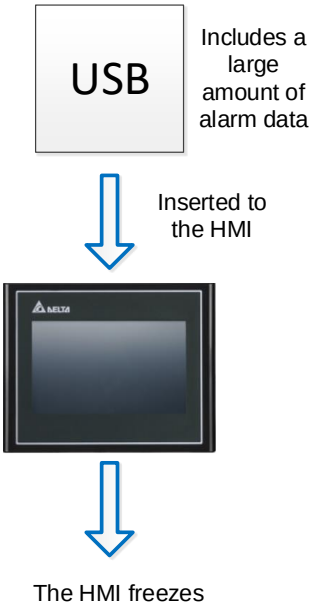
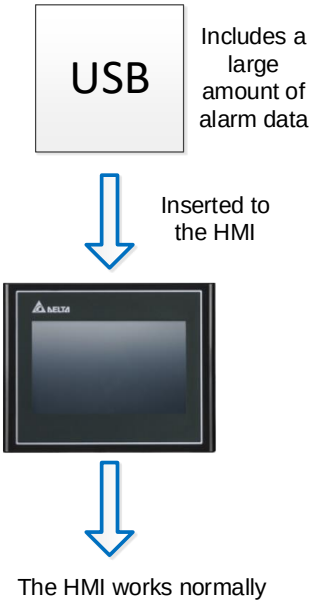
Before

Step 1: in DOPSoft, go to [Options] > [Alarm Settings] to set the alarms. On the Properties tab, set Non-volatile Data Storage to USB Disk.



Step 2: create three Maintained buttons and set the Write Addresses to \$0.0, \$0.1, and \$0.2 respectively.

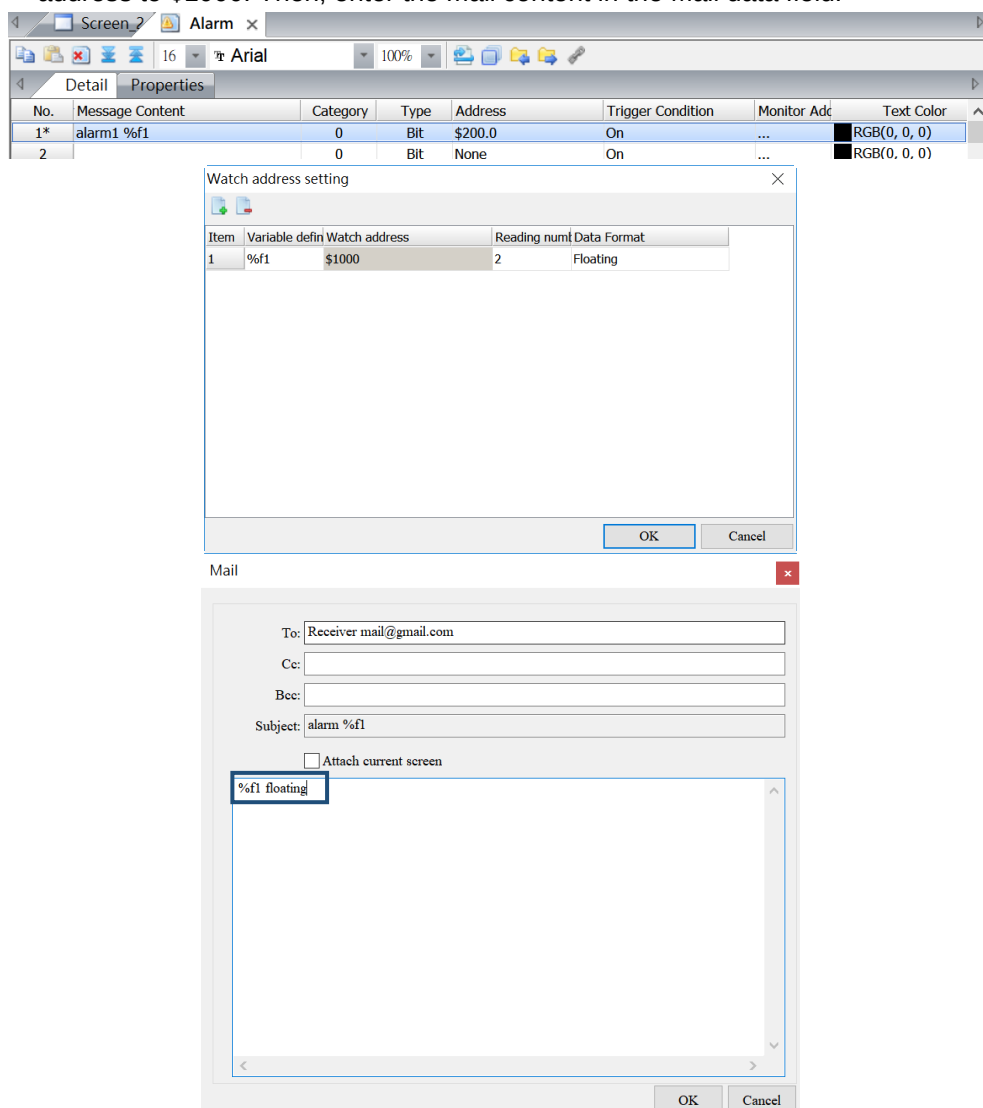
Step 3: after completing the settings, download the project to the HMI. Press the Maintained buttons **\$0.0**, **\$0.1**, and **\$0.2** to trigger the alarms, and the HMI records the alarm data to the USB disk as Non-volatile Data Storage is set to USB Disk.

Before	Step 4: when the number of triggered alarms is greater than 4096, if you remove the USB disk from the HMI and then insert it back again, the HMI may freeze because of reading a large amount of data.  USB Includes a large amount of alarm data Inserted to the HMI The HMI freezes
After	The HMI works normally when loading a large amount of alarm data.  USB Includes a large amount of alarm data Inserted to the HMI The HMI works normally

3.9. Fix the issue of when you use the SMTP function, the displayed value in the e-mail message is incorrect if the data format is Floating.

Step 1: go to [Options] > [Configuration] > [Network Settings] > [SMTP] and select the check box for **Enable Mail Host**. Refer to Chapter 27 of the DOPSoft User Manual for more details on setting the SMTP function.

Step 2: go to [Options] > [Alarm Settings] to set an alarm with the Address as \$200.0. In the Watch address setting window, set Variable definition to %f1 and Watch address to \$1000. Then, enter the mail content in the Mail data field.



The screenshot shows two windows from the DOPSoft software. The top window is the 'Alarm' configuration window, specifically the 'Properties' tab. It contains a table with columns: No., Message Content, Category, Type, Address, Trigger Condition, Monitor Address, and Text Color. The first row (No. 1) shows 'alarm1 %f1' with Category 0, Type Bit, Address \$200.0, Trigger Condition On, and Text Color RGB(0, 0, 0). The second row (No. 2) shows a similar setup with Address None. Below this table is a 'Watch address setting' dialog box. It has a table with columns: Item, Variable definition, Watch address, Reading number, and Data Format. The first row (Item 1) shows '%f1' for Variable definition, '\$1000' for Watch address, '2' for Reading number, and 'Floating' for Data Format. At the bottom of this dialog are 'OK' and 'Cancel' buttons. The bottom window is the 'Mail' configuration window. It has fields for 'To:' (Receiver mail@gmail.com), 'Cc:', 'Bcc:', and 'Subject:' (alarm %f1). There is a checkbox for 'Attach current screen' which is unchecked. Below these fields is a large text area for the mail body, which contains the text '%f1 floating'. At the bottom of the mail window are 'OK' and 'Cancel' buttons.

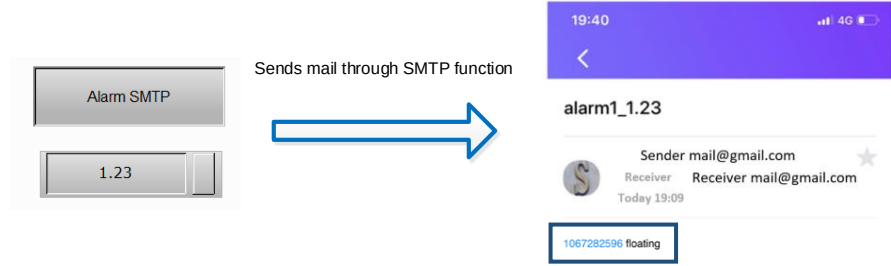
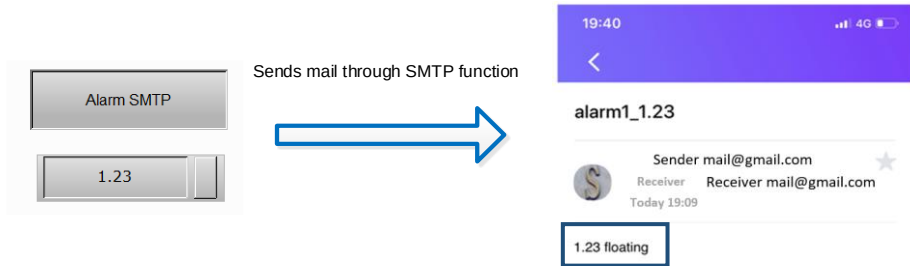
No.	Message Content	Category	Type	Address	Trigger Condition	Monitor Address	Text Color
1*	alarm1 %f1	0	Bit	\$200.0	On	...	RGB(0, 0, 0)
2		0	Bit	None	On	...	RGB(0, 0, 0)

Item	Variable definition	Watch address	Reading number	Data Format
1	%f1	\$1000	2	Floating

Mail configuration fields:

- To: Receiver mail@gmail.com
- Cc:
- Bcc:
- Subject: alarm %f1
- Attach current screen: ☐
- Mail body: %f1 floating

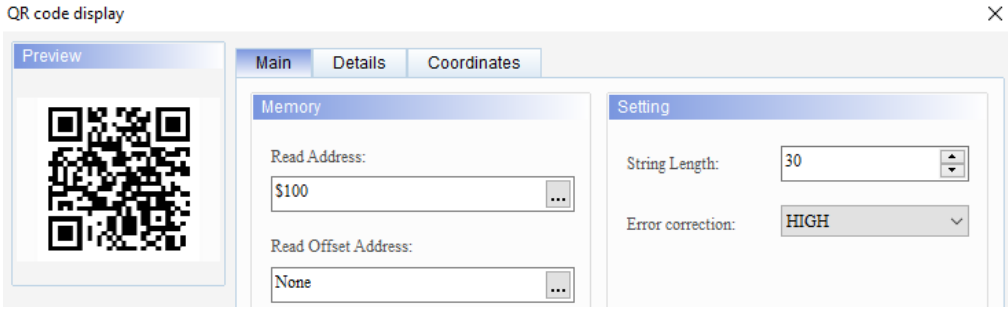
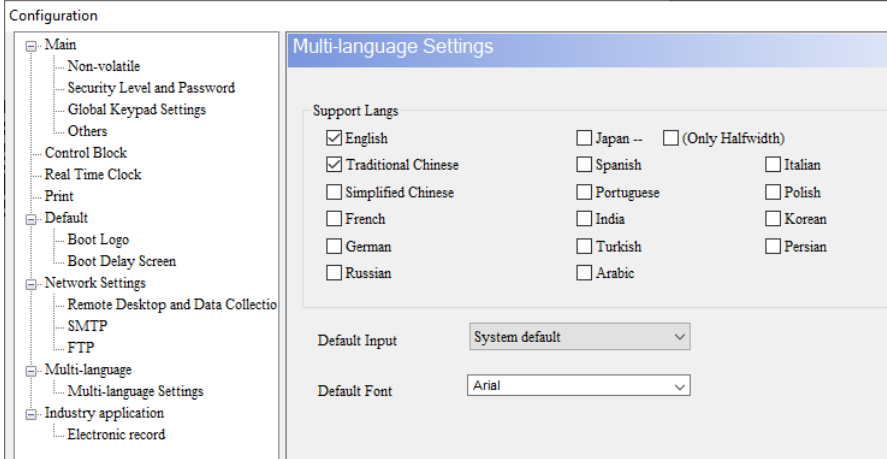
Before

Before	Step 3: create a Maintained button and set the Write Address to \$200.0. Then, create a Numeric Entry element and set the Write Address to \$1000, Data Type to Double Word, and Data Format to Floating. Step 4: after creating these elements, download the project to the HMI. Trigger \$200.0 and the HMI sends the alarm message to the specified mailbox. The variable %f1 reads the value from \$1000 correctly but displays an incorrect value in the e-mail message. 
After	The variable %f1 displays the correct value in the e-mail message. 

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4.1. Add the QR code display element.

The QR code display element is for generating a QR code which encodes a string. Scan the QR code to display the string. When the string is a weblink, you will be directed to the website. The QR code display element also supports multi-language input. Refer to the following example.

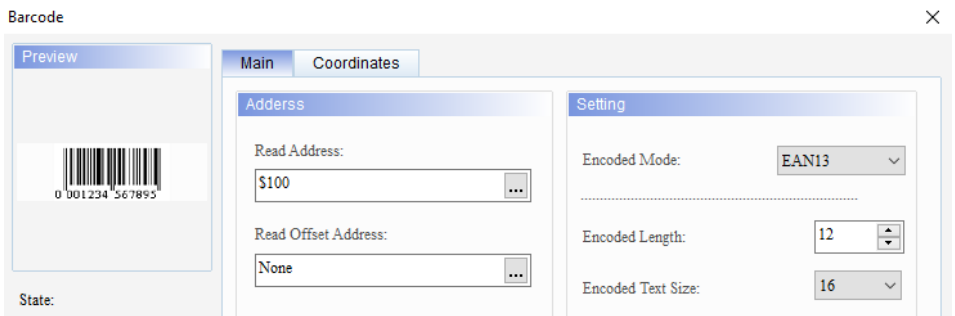
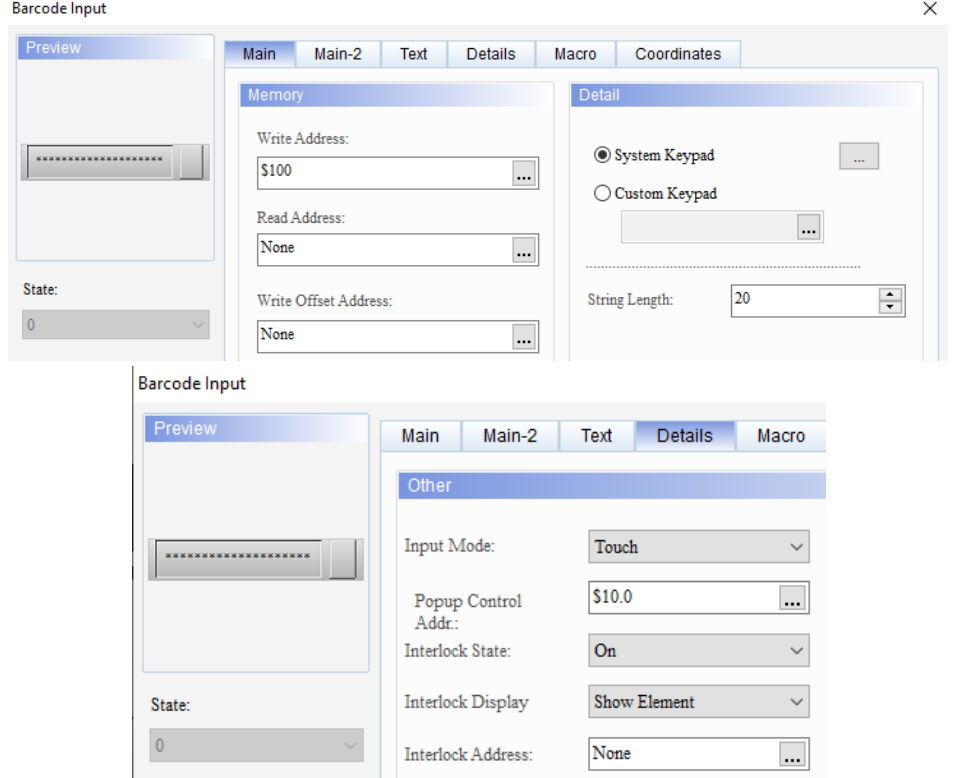
QR code display	
Create QR code display element	Create a QR code display element, and set the Read Address to \$100 and String Length to 30. 
Create Character Entry and Multi-language Input elements	■ Create a Character Entry element, and set the Read Address to \$100 and String Length to 30. ■ Create a Multi-language Input element, and set the Read Address to \$100 and String Length to 30.
Select language	In DOPSoft, go to [Options] > [Configuration] > [Multi-language] > [Multi-language Settings] to select the check boxes for English and Traditional Chinese. 

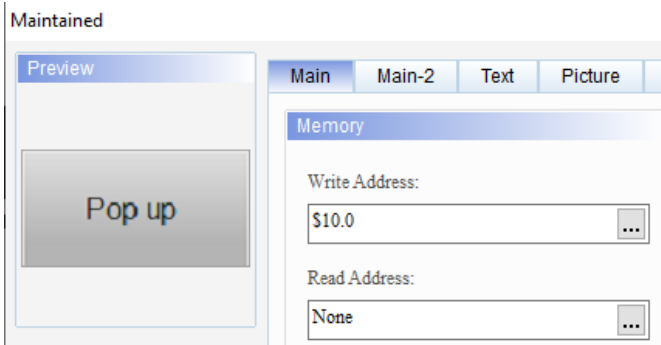
QR code display		
Execution results		After creating the elements, compile and download the elements to the HMI. Then, enter a string to the Character Entry element or the Multi-language Input element to generate a QR code.
	Generate QR code with Character Entry element	Enter Delta's weblink and the corresponding QR code is generated.  
	Generate QR code with Multi-language Input element	Enter “台達電” and the corresponding QR code is generated.  

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4.2. Add the Barcode element.

The Barcode element is for creating a barcode. Scan the barcode with a barcode reader to get the information. The Barcode element must be used along with the Barcode Input element. Refer to the following example.

Barcode	
Create a Barcode element and set the Read Address to \$100.	
Create a Barcode Input element and set the Write Address to \$100. On the Details tab, set the Input Mode to Touch and Popup Control Addr. to \$10.0.	

Barcode	
Create Maintained button	Create a Maintained button and set the Write Address to \$10.0. 
Execution results	After creating the elements, compile and download the elements to the HMI. Step 1: the HMI displays the elements as shown in the following.  Step 2: press the Pop up button and then the Barcode Input element. Then, the input keypad appears.  Step 3: enter numbers to generate a barcode. 

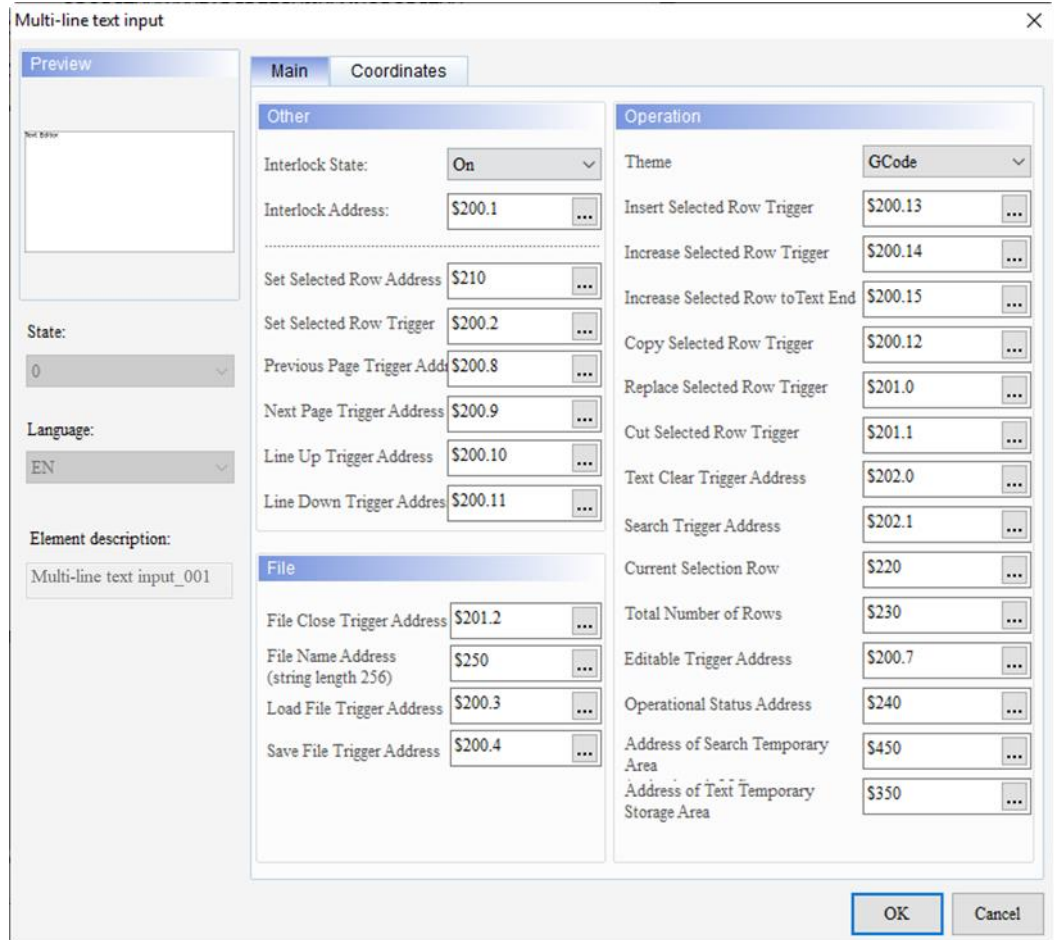
4.3. Add the Multi-line text input element.

The Multi-line text input element is for viewing and editing text files and G-code files. The element also supports multi-language display. Refer to the following example.

Multi-line text input

Set the required memory addresses as shown in the following figure.

Create
Multi-line
text input
element



Multi-line text input

Preview

Not Edit

State:

0

Language:

EN

Element description:

Multi-line text input_001

Main Coordinates

Other

Interlock State: On

Interlock Address: \$200.1

Set Selected Row Address: \$210

Set Selected Row Trigger: \$200.2

Previous Page Trigger Address: \$200.8

Next Page Trigger Address: \$200.9

Line Up Trigger Address: \$200.10

Line Down Trigger Address: \$200.11

File

File Close Trigger Address: \$201.2

File Name Address (string length 256): \$250

Load File Trigger Address: \$200.3

Save File Trigger Address: \$200.4

Operation

Theme: GCode

Insert Selected Row Trigger: \$200.13

Increase Selected Row Trigger: \$200.14

Increase Selected Row to Text End: \$200.15

Copy Selected Row Trigger: \$200.12

Replace Selected Row Trigger: \$201.0

Cut Selected Row Trigger: \$201.1

Text Clear Trigger Address: \$202.0

Search Trigger Address: \$202.1

Current Selection Row: \$220

Total Number of Rows: \$230

Editable Trigger Address: \$200.7

Operational Status Address: \$240

Address of Search Temporary Area: \$450

Address of Text Temporary Storage Area: \$350

OK Cancel

Multi-line text input

Create the elements with the memory addresses set as shown in the preceding figure.
The configuration is as follows.

Create
elements

Text Editor		File Name	ABCDEFGHIJKLMNOPQRSTUVWXYZABCDEFGHIJKLMN OPQRSTUVWXYZ7ABCDEFGHIJKLMN
Clear data	Search data	Text Data	ABCDEFGHIJKLMNOPQRSTUVWXYZABCDEFGHIJKLMN
Visible	Close File	Text Data	ABCDEFGHIJKLMNOPQRSTUVWXYZABCDEFGHIJKLMN
DIS Touch	Readonly	Text Editor	
Load	Save		
Page Up	Page Down		
Prev. Line	Next Line		
Copy Line	Insert Line		
Add Line	Add Line 2E		
Replace	Cut Line		
Go To Line	12345678		
Curr. Line	12345678		
Total Lines	12345678		
Status	12345678		

Put the
text file
under the
path to
be used

- This example is an off-line simulation so the file is saved in the computer. To open a text file saved in the USB disk or SD card, enter “/USB/[Text filename]” or “/SD/[Text filename]” in the File Name field.
- Edit the text file before putting it under the specific path.

Language.txt - Notepad

File Edit Format View Help

中文測試
중국어 시험
中国語テスト
Čínský test
К и т а й с к и й т е с т
중국어 시험
Éditeur de texte
Kínverska prófið

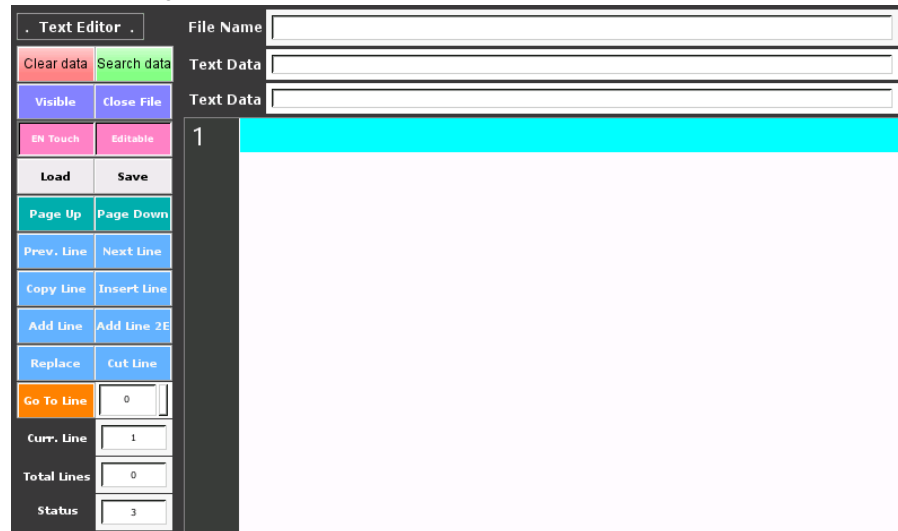
- After completing the edits, put the text file under the specific path.
The path used in this example is “C:\Users\Tina.Q.Lee\Desktop”.

Multi-line text input

Compile and download the elements to the HMI.

After downloading, the HMI screen is as follows.

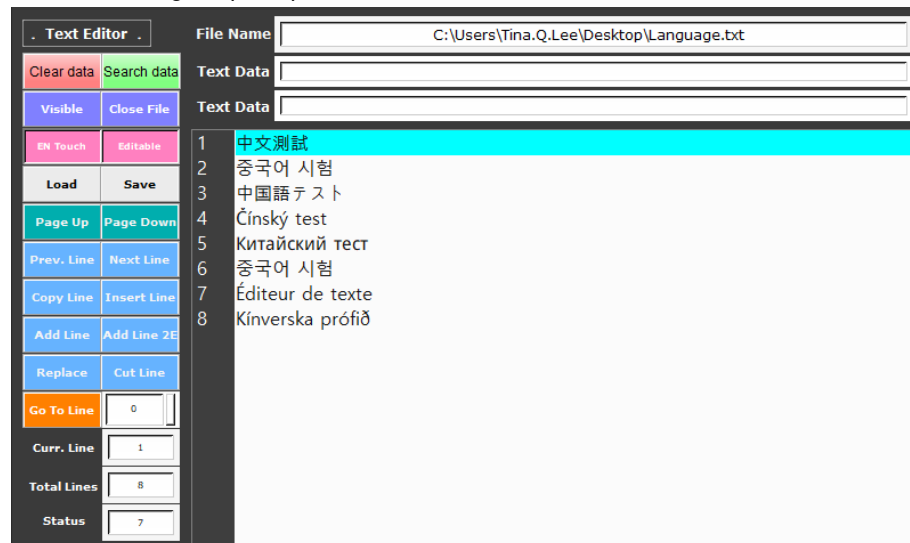
Download the screen



Execution results

Open the file

- Enter the path of the text file to be opened to the File Name field. In this example, the path is "C:\Users\Tina.Q.Lee\Desktop\Language.txt".
- After entering the path, press **Load**.

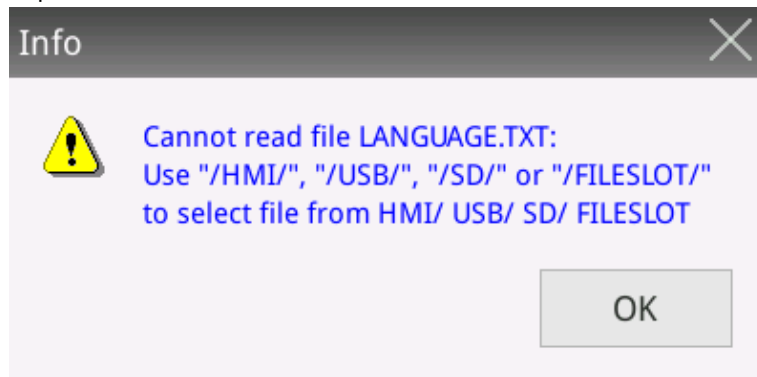


Multi-line text input

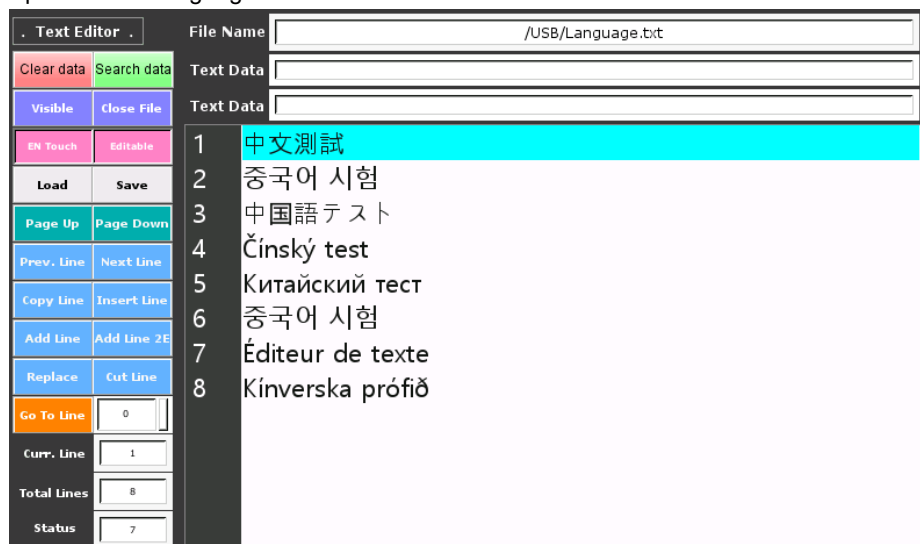
Execution
results

Open the
file

- If the input path is incorrect, the following dialog box appears to provide instructions on how to open the text file.

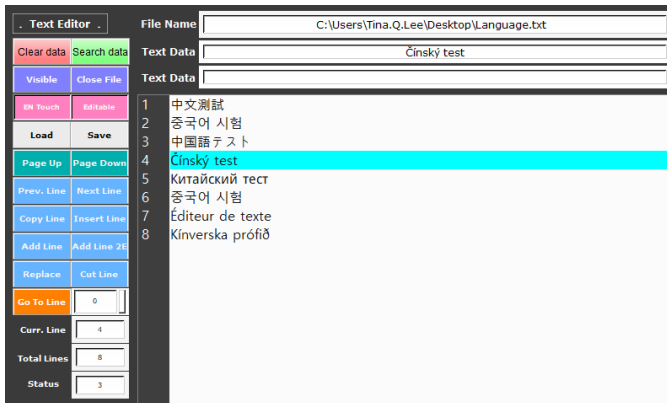
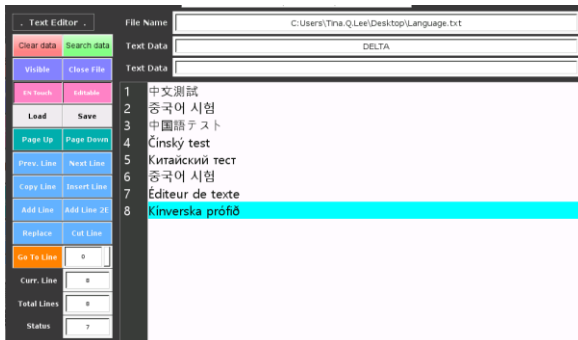
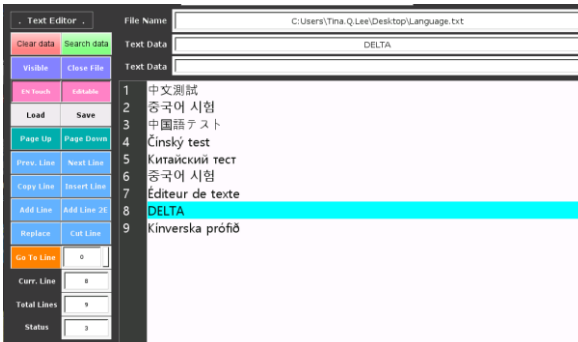


- For example, if the file to be opened is saved in the USB disk, you should enter the path "/USB/Language.txt".

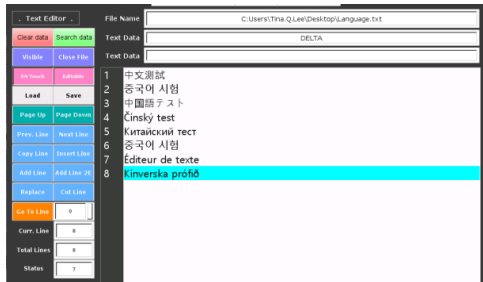
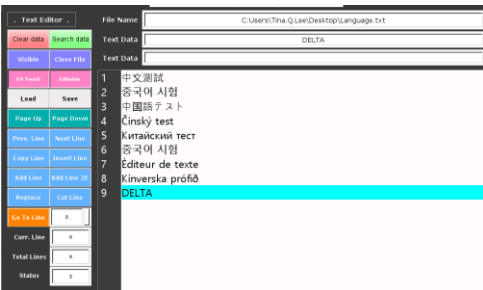
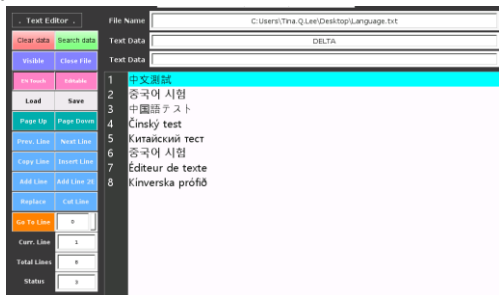
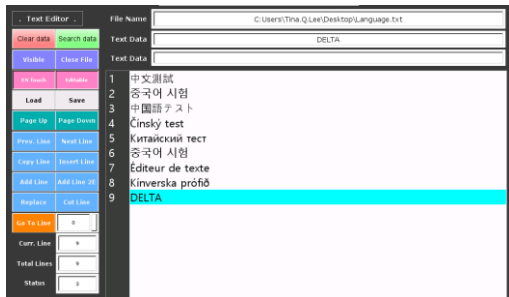


Note: the size of the text file to be opened should not exceed 20 MB.

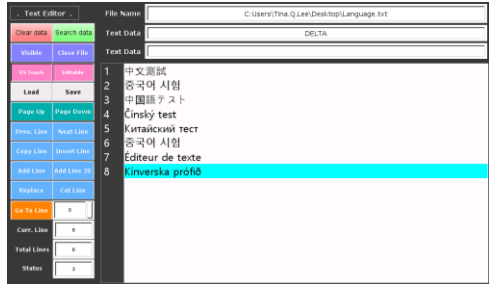
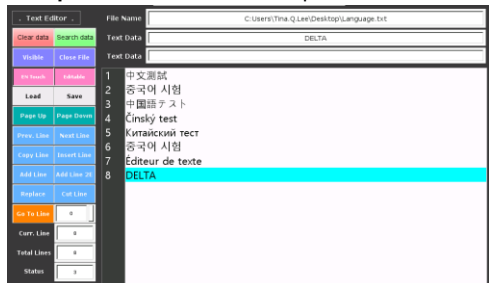
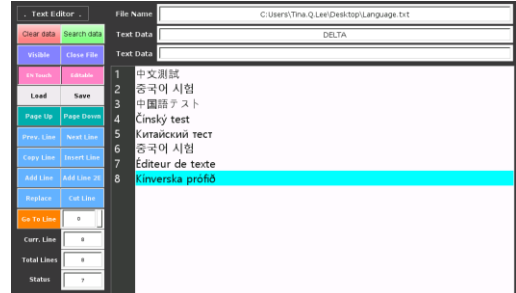
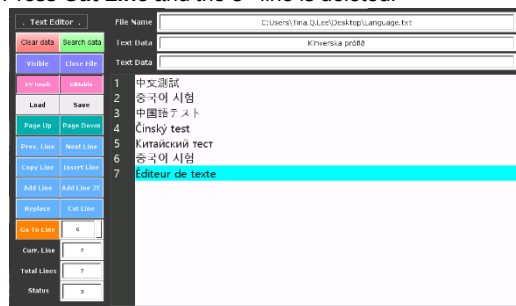
Multi-line text input

Execution results	Edit the text	Enter the text and use the functions of Copy Line, Insert Line, Add Line, Add Line 2E, Replace, and Cut Line for editing.	
		Copy Line	Select the string to be copied and press Copy Line, and then the selected string is copied to the Text Data field. 
		Insert Line	Enter the text to the Text Data field and press Insert Line to insert the text before the selected string. Select the 8th line and enter "DELTA" to the Text Data field. 
			Press Insert Line and "DELTA" is inserted to the 8th line. 

Multi-line text input

Execution results	Edit the text	Add Line	Enter the text to the Text Data field and press Add Line to insert the text after the selected string.	
			Before adding	Select the 8th line and enter "DELTA" to the Text Data field. 
			After adding	Press Add Line and "DELTA" is inserted to the 9th line. 
			Enter the text to the Text Data field and press Add Line 2E to insert the text to the last line.	
		Add Line 2E	Before adding	Select any line and enter "DELTA" to the Text Data field. 
			After adding	Press Add Line 2E and "DELTA" is inserted to the last line. 

Multi-line text input

Execution results	Edit the text	Replace	Enter the text to the Text Data field and press Replace to replace the selected string with the entered text.
			Before replacing Select the 8th line and enter "DELTA" to the Text Data field. 
			After replacing Press Replace and the 8th line is replaced with "DELTA". 
			Select the string to be deleted and press Cut Line , and then the string is deleted.
		Cut Line	Before deleting Select the 8th line. 
			After deleting Press Cut Line and the 8th line is deleted. 

Multi-line text input

- Press **Page Up**, **Page Down**, **Prev. Line**, or **Next Line** to switch to the specific line.
- When the text contents are within one page, the first line is selected if you press **Page Up** and the last line is selected if you press **Page Down**.

Execution
results

Switch to
specific line

Page Up

Text Editor		File Name	C:\Users\Tina.Q.Lee\Desktop\Language.txt
Clear data	Search data	Text Data	
Visible	Close File	Text Data	
FN Touch	Editable		
Load	Save		
Page Up	Page Down		
Prev. Line	Next Line		
Copy Line	Insert Line		
Add Line	Add Line 2E		
Replace	Cut Line		
Go To Line	0		
Curr. Line	1		
Total Lines	10		
Status	3		

1	中文測試
2	중국어 시험
3	中国語テスト
4	Čínský test
5	Китайский тест
6	중국어 시험
7	Éditeur de texte
8	
9	
10	Kínverska prófið

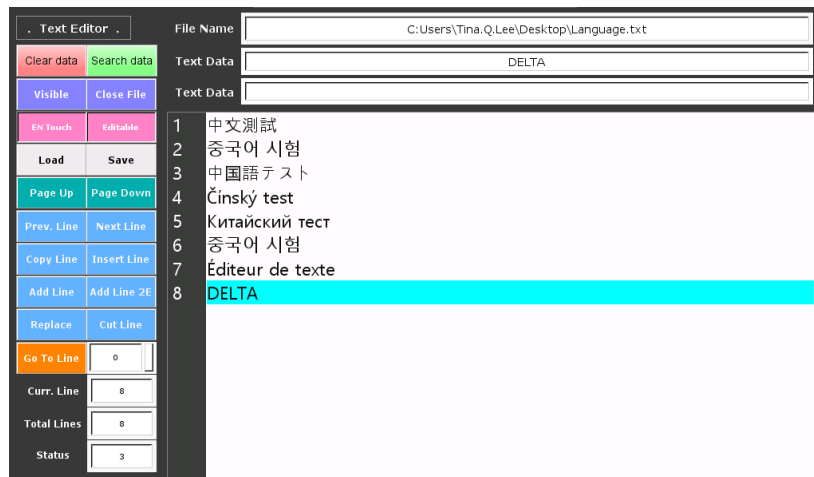
Page
Down

Text Editor		File Name	C:\Users\Tina.Q.Lee\Desktop\Language.txt
Clear data	Search data	Text Data	
Visible	Close File	Text Data	
FN Touch	Editable		
Load	Save		
Page Up	Page Down		
Prev. Line	Next Line		
Copy Line	Insert Line		
Add Line	Add Line 2E		
Replace	Cut Line		
Go To Line	0		
Curr. Line	10		
Total Lines	10		
Status	3		

1	中文測試
2	중국어 시험
3	中国語テスト
4	Čínský test
5	Китайский тест
6	중국어 시험
7	Éditeur de texte
8	
9	
10	Kínverska prófið

Multi-line text input

- Enter "DELTA" to the Text Data field, select the 8th line, and press **Replace**. Then, press **Save** to save the edited text file. You can open the text file on a computer to check if the data is modified and saved.



Execution
results

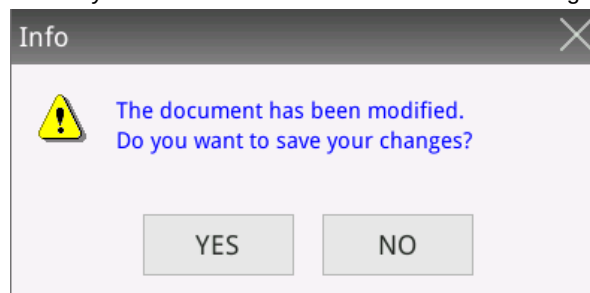
Save

Language.txt - Notepad

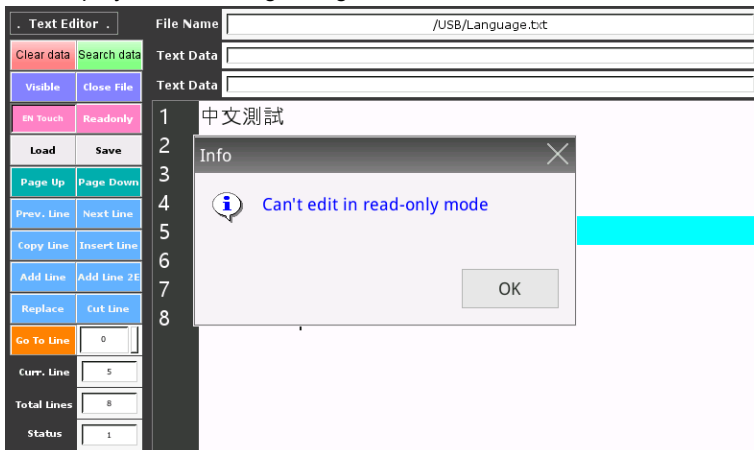
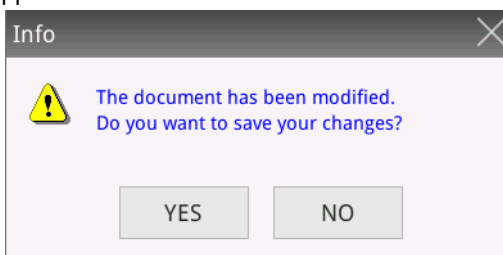
File Edit Format View Help

中文測試
중국어 시험
中国語テスト
Čínský test
Китайский тест
중국어 시험
Éditeur de texte
DELTA

- If you modified the file without saving it and then press **Load**, the following dialog box appears to confirm if you want to save the edited file before loading another text file.



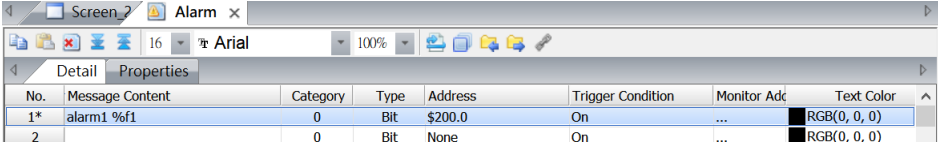
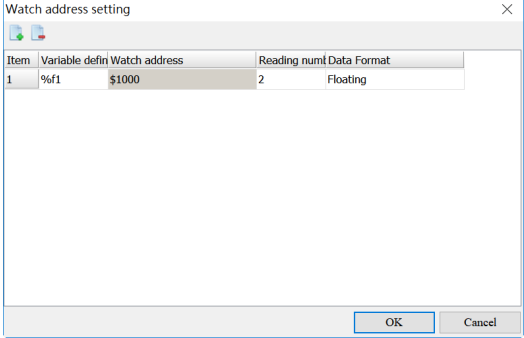
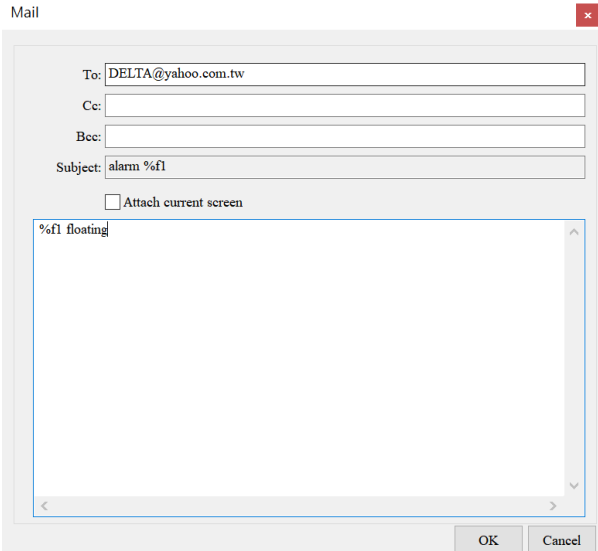
Multi-line text input

Execution results	Write-protected	When Editable Trigger Address (Readonly) is off, the text file is write-protected. If you enter texts, the HMI displays the following dialog box. 																	
	Touch disable	If the set Interlock Address is On, you can press the buttons to edit the text. When the Interlock Address is Off, the buttons are not available.																	
	Close File	Press Close File to close the currently opened file. If you close a file that is modified, the following dialog box appears. 																	
	Operational Status Address	■ Refer to the Status value for the current state of the text file. <table><tr><th>Status value</th><th>Description</th></tr><tr><td>1</td><td>Operation in progress</td></tr><tr><td>2</td><td>Operation canceled</td></tr><tr><td>3</td><td>Execution success</td></tr><tr><td>4</td><td>Execution failed / execution error</td></tr><tr><td>7</td><td>File loading success</td></tr><tr><td>8</td><td>File saving success</td></tr><tr><td>9</td><td>File is empty</td></tr><tr><td>10</td><td>File not found</td></tr></table> ■ The controller address (Word) and the internal register address (Word) are supported.	Status value	Description	1	Operation in progress	2	Operation canceled	3	Execution success	4	Execution failed / execution error	7	File loading success	8	File saving success	9	File is empty	10
Status value	Description																		
1	Operation in progress																		
2	Operation canceled																		
3	Execution success																		
4	Execution failed / execution error																		
7	File loading success																		
8	File saving success																		
9	File is empty																		
10	File not found																		

Product Announcement

4.4. Add the system parameters SMTP_STATUS and SMTP_INFO.

The added system parameters, SMTP_STATUS and SMTP_INFO, allow you to access the current mail transmission status of the SMTP function. Refer to the following example.

SMTP_STATUS and SMTP_INFO	
Set SMTP function	Go to [Options] > [Configuration] > [Network Settings] > [SMTP] and select the check box for Enable Mail Host . Refer to Chapter 27 of the DOPSoft User Manual for more details on setting the SMTP function.
Set alarm	Go to [Options] > [Alarm Settings] to set an alarm with the Address as \$200.0. In the Watch address setting window, set Variable definition to %f1 and Watch address to \$1000. Then, enter the mail content in the Mail data field.   

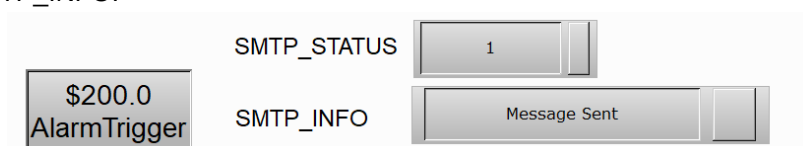
SMTP_STATUS and SMTP_INFO

Set elements

- Create a Maintained button and set the Write Address to \$200.0.
- Create a Numeric Entry element and set the Write Address to the system parameter SMTP_STATUS.
- Create a Character Entry element and set the Write Address to the system parameter SMTP_INFO and the String Length to 20.

Execution results

- After creating these elements, download the project to the HMI. Trigger \$200.0 and the HMI sends the alarm message to the specified mailbox. You can access the mail transmission status with the system parameters SMTP_STATUS and SMTP_INFO.



- Description table of the SMTP_STATUS return value and the SMTP_INFO message

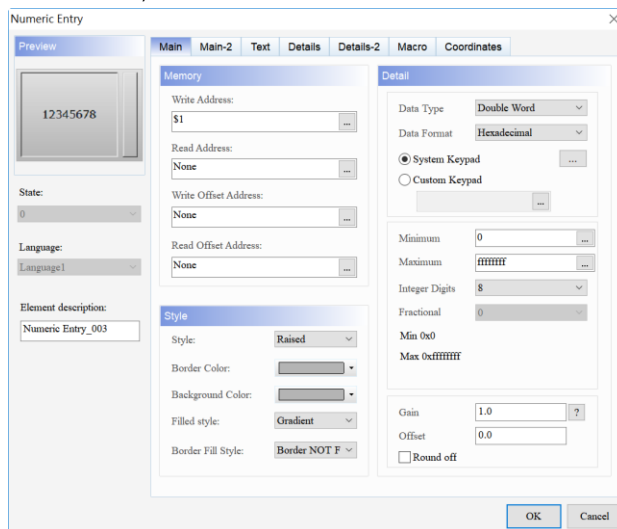
SMTP_STATUS status value	Corresponding message in SMTP_INFO	Description
0	Unknown	Status unknown
1	Message Sent	Connection success
-100	Unable to connect to Host	Connection failed
-101	The displayed message changes according to the system.	System disconnected
-102	530 SMTP Authentication is required	Authentication required
-103	Fail to send message due to Authentication Fail	Authentication failed
-999	Fail to send message	SMTP error

4.5. Add the word swap function to the Numeric Entry element.

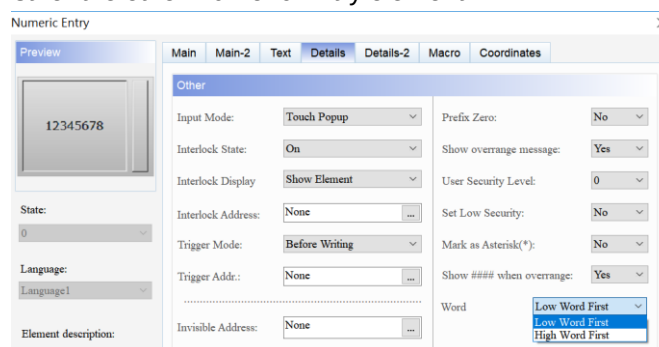
When Delta's HMI is paired with PLCs of other brands, such as Siemens, the high word and low word are swapped, and thus the HMI elements display the incorrect values. To avoid this, the word swap function is added to the Numeric Entry element. Refer to the following example.

Word swap

- Create two Numeric Entry elements. On the Main tab, set the Write Addresses to \$1, Data Type to Double Word, and Data Format to Hexadecimal.



- On the Details tab, set the Word to Low Word First for one Numeric Entry element and High Word First for the other Numeric Entry element.



- After creating and setting the elements, download the project to the HMI.
- Enter "FFFF1111" to the Numeric Entry element with the Word as Low Word First, and the Numeric Entry element with the Word as High Word First displays "1111FFFF" because of the word swap setting.



Product Announcement

4.6. Add the function of mapping data to the external memory address to the Modbus TCP mapping table.

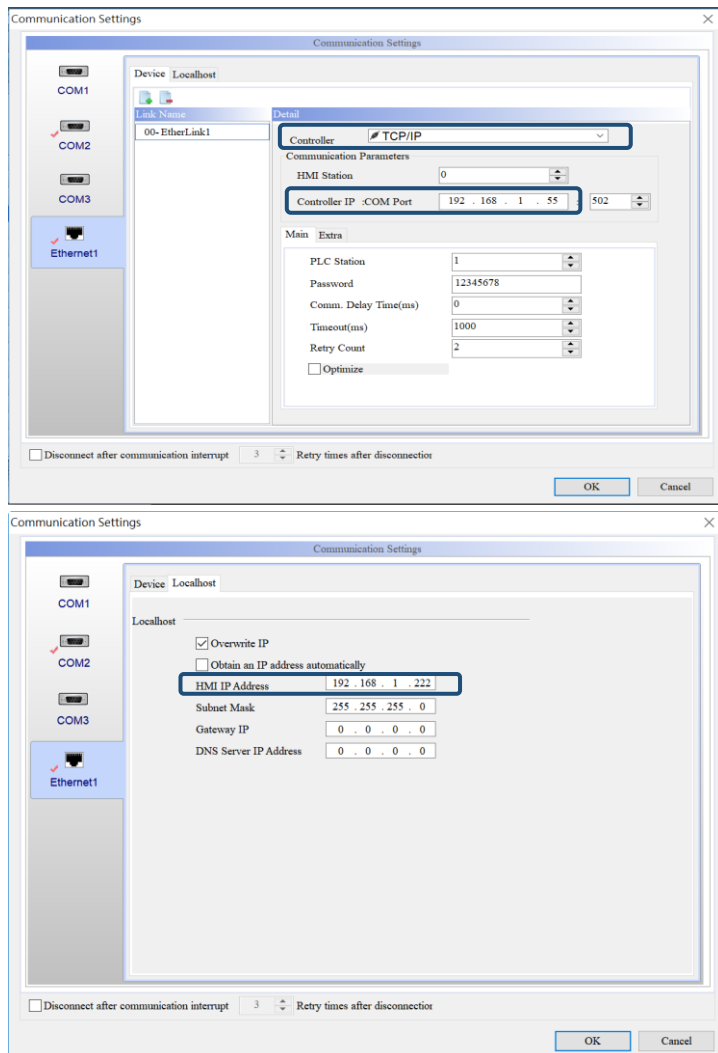
With the added function, you can use the Modbus TCP mapping table to set the HMI internal memory address and external memory address which the Modbus address is mapped to. Refer to the following example.

Modbus TCP mapping table

This example uses the Modbus TCP to establish communication between two HMIs.

Step 1: on the 1st HMI, go to [Options] > [Communication Settings] > [Ethernet1] to add a network link by setting the Controller to [Modbus > TCP/IP]. The communication parameters are as follows.

Set
Communication
Parameters



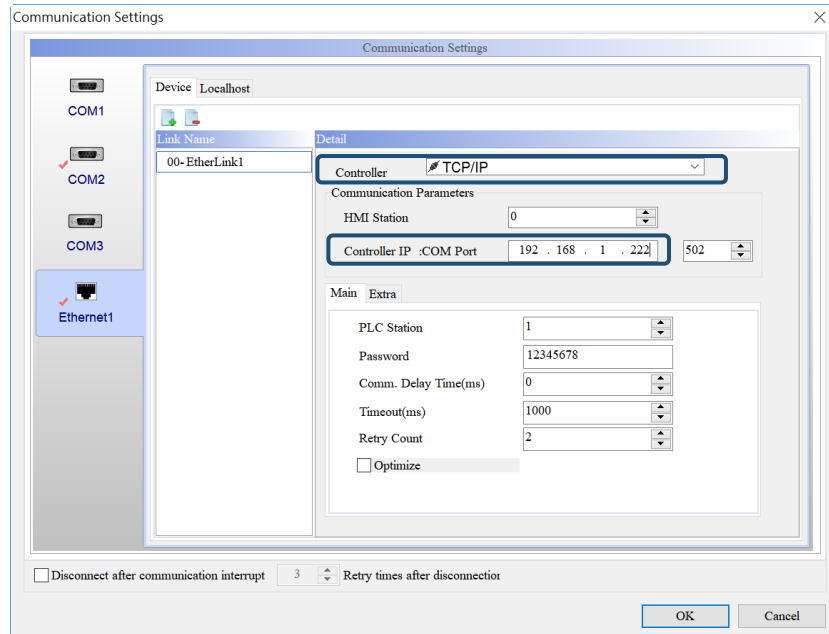
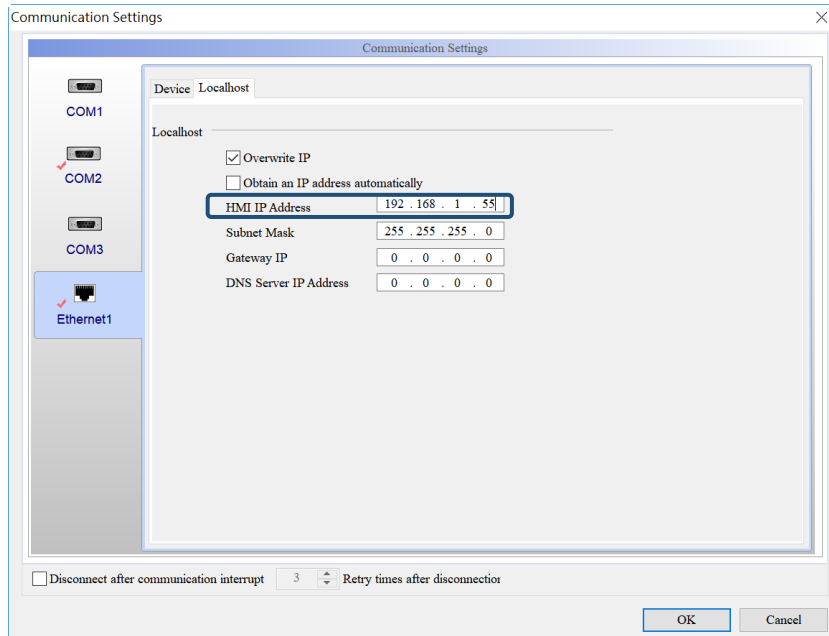
The top screenshot shows the 'Communication Settings' dialog box with the 'Detail' tab selected. The 'Controller' is set to 'TCP/IP'. The 'HMI Station' is set to '0'. The 'Controller IP :COM Port' is set to '192.168.1.55'. The 'Main' tab is also visible, showing 'PLC Station' set to '1', 'Password' set to '12345678', 'Comm. Delay Time(ms)' set to '0', 'Timeout(ms)' set to '1000', and 'Retry Count' set to '2'. The 'Optimize' checkbox is unchecked.

The bottom screenshot shows the 'Communication Settings' dialog box with the 'Main' tab selected. The 'HMI IP Address' is set to '192.168.1.222'. The 'Subnet Mask' is set to '255.255.255.0', the 'Gateway IP' is set to '0.0.0.0', and the 'DNS Server IP Address' is set to '0.0.0.0'. The 'Overwrite IP' checkbox is checked, and the 'Obtain an IP address automatically' checkbox is unchecked.

Modbus TCP mapping table

Step 2: on the 2nd HMI, go to [Options] > [Communication Settings] > [Ethernet1] and add a network link by setting the Controller to [Modbus > TCP/IP]. The communication parameters are as follows.

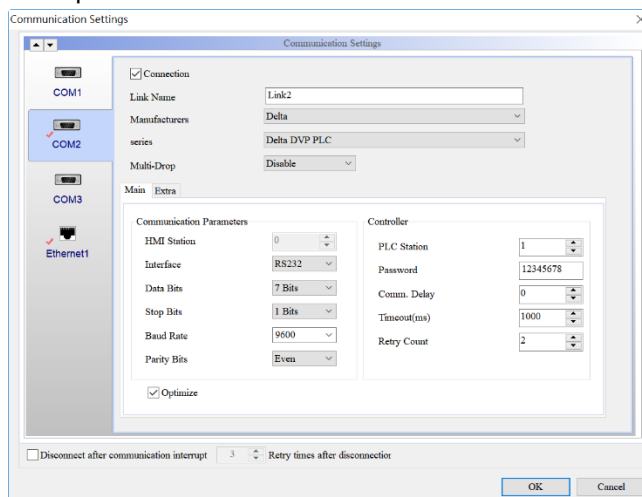
Set
Communication
Parameters

Modbus TCP mapping table

Set
Communication
Parameters

Step 3: on the 2nd HMI, go to [Options] > [Communication Settings] > [COM2] to set the communication parameters for the Delta DVP PLC controller.



Set Modbus TCP
mapping table
parameters

Go to [Options] > [Modbus TCP mapping table] and set the Modbus Address 2 (Address: {EtherLink1}1@RW-1) which is mapped to the external memory address {Link2}1@D0 with the Length as 1024 words.

External connection function code					
Description:					
Coils					
0x01: read multiple Bit					
0x05: write a Bit					
0x0F: write multiple Bit					
Registers					
0x03: read multiple Word					
0x04: read multiple Word					
0x06: write a Word					
0x10: write multiple Word					
No	Data Type	Modbus Address	HMI Address	Length	Modbus Range
1	Coils	1	\$2000.0	1024	00001(0x0001) ~ 01024(0x0400)
2	Coils	1025	\$M200.0	1024	01025(0x0401) ~ 02048(0x0800)
3	Registers	1	{Link2}1@D0	1024	00001(0x0001) ~ 01024(0x0400)
4	Registers	2001	\$M0	1024	02001(0x07D1) ~ 03024(0x0BD0)

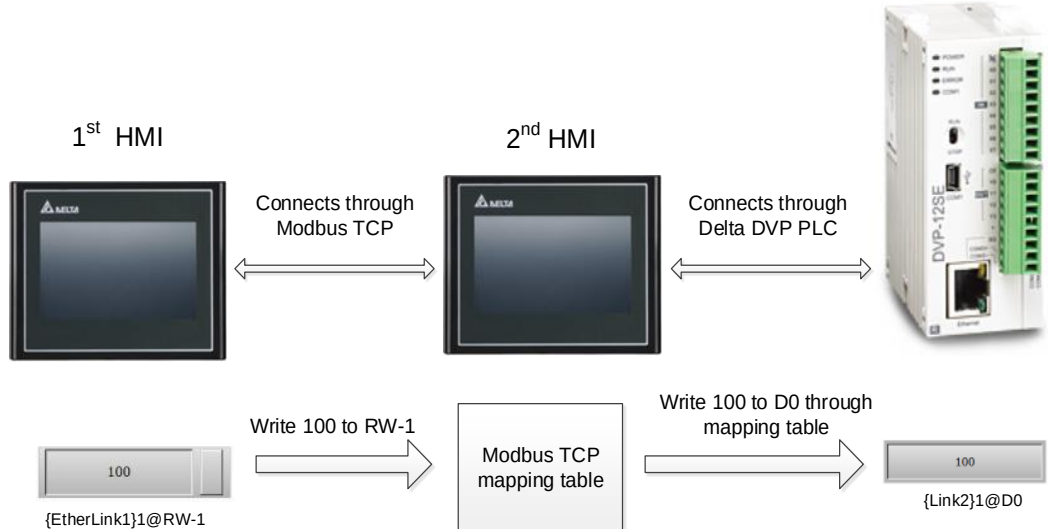
Create Numeric
Entry and
Numeric Display
elements

- On the 1st HMI, create a Numeric Entry element and set the Write Address to {EtherLink1}1@RW-1.
- On the 2nd HMI, create a Numeric Display element and set the external memory address to {Link2}1@D0.

Modbus TCP mapping table

- After creating and setting the elements, download the projects to the HMIs.
- When you write "100" to the Numeric Entry element with the Write Address as {EtherLink1}1@RW-1 on the 1st HMI, the 2nd HMI maps the value "100" to the external memory address {Link2}1@D0 with the function of the Modbus TCP mapping table.

Execution results



Product Announcement

4.7. Add the FileSlot related macro commands.

Use the added FileSlot macro commands, FileSlotGetName, FileSlotSetName, and FileSlotGetID, to set or access the FileSlot filename and ID. Refer to the following descriptions.

Expression	Meaning of variable		Note
Var1 = FileSlotGetName (Var2, Var3, Var4) (W)	Var1	Return value	
		Failed	0
		Success	1
	Var2	FileSlot ID	
	Var3	Filename	
	Var4	Filename length	
	Description of action		
	Store the filename of Var2 FileSlot to Var3 according to Var4 filename length and return the result to Var1.		
W: Word			

Note: unit of read length is byte.

Variable	Type		
	Internal memory	PLC register	Constant
Var1	⊙		
Var2	⊙	⊙	⊙
Var3	⊙	⊙	
Var4	⊙	⊙	⊙

Expression	Meaning of variable		Note
Var1 = FileSlotSetName (Var2, Var3, Var4) (W)	Var1	Return value	
		Failed	0
		Success	1
	Var2	FileSlot ID	
	Var3	Filename	
	Var4	Filename length	
	Description of action		
	Set the filename of Var2 FileSlot with Var3 filename according to Var4 filename length and return the result to Var1.		

Note: unit of set length is byte.

Variable	Type		
	Internal memory	PLC register	Constant
Var1	⊙		
Var2	⊙	⊙	⊙
Var3	⊙	⊙	
Var4	⊙	⊙	⊙

Expression	Meaning of variable		Note
Var1 = FileSlotGetID (Var2, Var3, Var4) (W)	Var1	Return value	
		Failed	0
		Success	1
	Var2	Filename	
	Var3	Filename length	
	Var4	FileSlot ID	
	Description of action		
	Store the FileSlot ID of Var2 filename to Var4 according to Var3 filename length and return the result to Var1.		
W: Word			

Note: unit of set length is byte.

Variable	Type		
	Internal memory	PLC register	Constant
Var1	⊙		
Var2	⊙	⊙	
Var3	⊙	⊙	⊙
Var4	⊙	⊙	

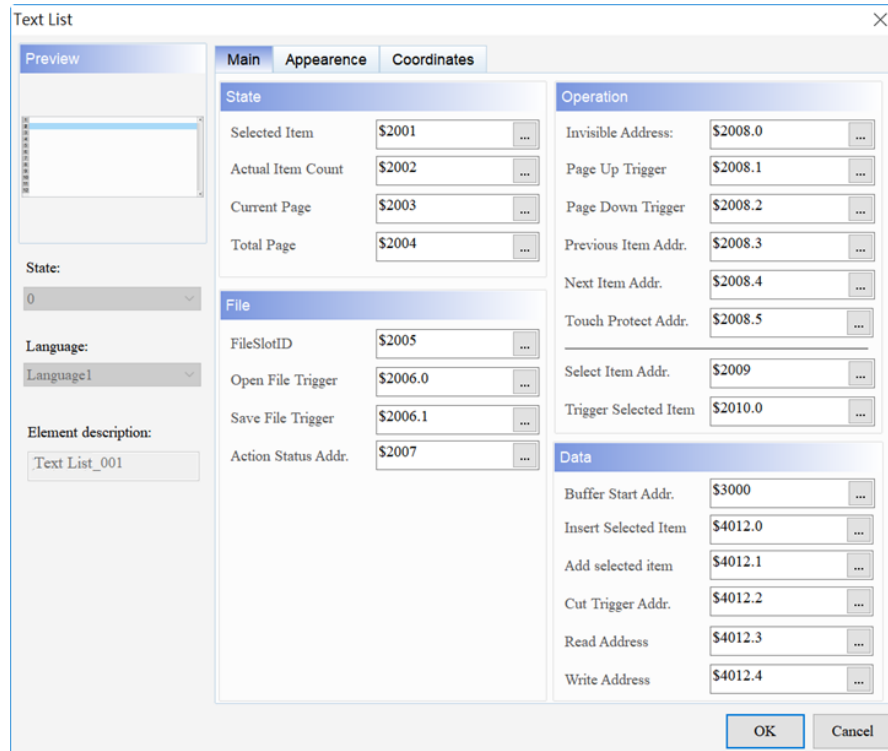
4.8. Add the Text List element which supports FileSlot file editing.

Use the Text List element to view and edit text files and FileSlot files. Refer to the following example.
(Note that this element is only available on the DOP-H series models.)

Text List

Set the required memory addresses as shown in the following figure.

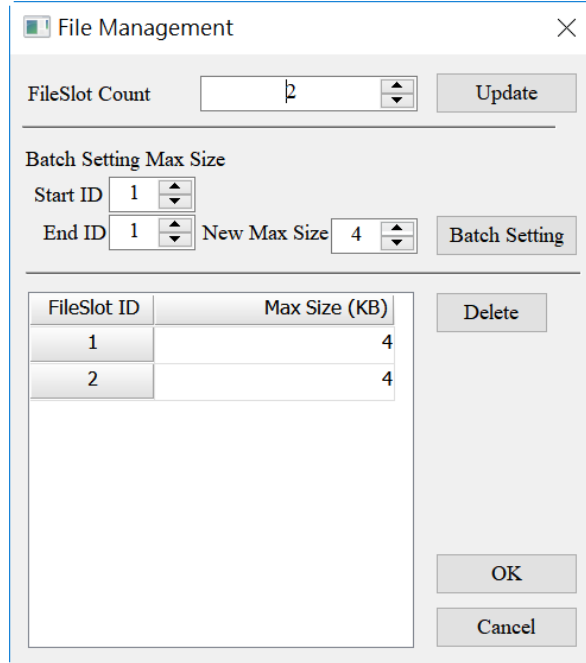
Create
Text List
element



Text List	
Main	
State	
Selected Item	\$2001
Actual Item Count	\$2002
Current Page	\$2003
Total Page	\$2004
File	
FileSlotID	\$2005
Open File Trigger	\$2006.0
Save File Trigger	\$2006.1
Action Status Addr.	\$2007
Operation	
Invisible Address:	\$2008.0
Page Up Trigger	\$2008.1
Page Down Trigger	\$2008.2
Previous Item Addr.	\$2008.3
Next Item Addr.	\$2008.4
Touch Protect Addr.	\$2008.5
Select Item Addr.	\$2009
Trigger Selected Item	\$2010.0
Data	
Buffer Start Addr.	\$3000
Insert Selected Item	\$4012.0
Add selected item	\$4012.1
Cut Trigger Addr.	\$4012.2
Read Address	\$4012.3
Write Address	\$4012.4

Text List

- In DOPSoft, go to [Options] > [FileSlot File Management] to create FileSlot files.

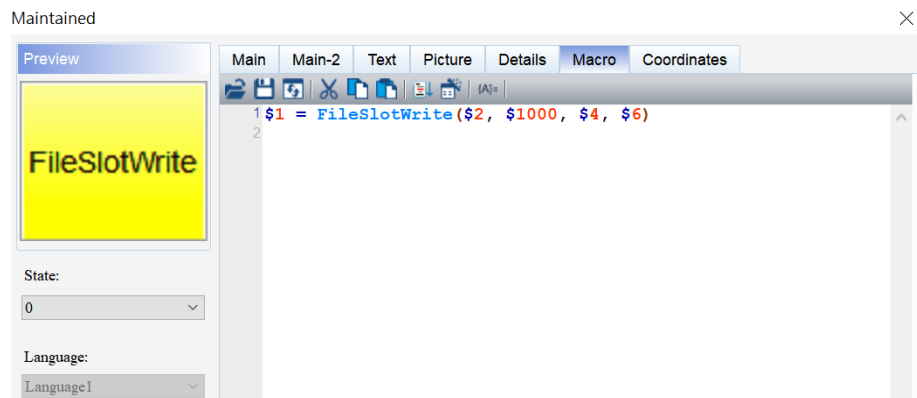


File Management dialog box showing FileSlot Count (2), Batch Setting Max Size (Start ID 1, End ID 1, New Max Size 4), and a table of FileSlot files.

FileSlot ID	Max Size (KB)
1	4
2	4

Create
FileSlot
files

- After completing the above steps, the FileSlot is created once you write data to it with the macro command FileSlotWrite. Create a Maintained button and set the FileSlotWrite command to the After Execute Macro.

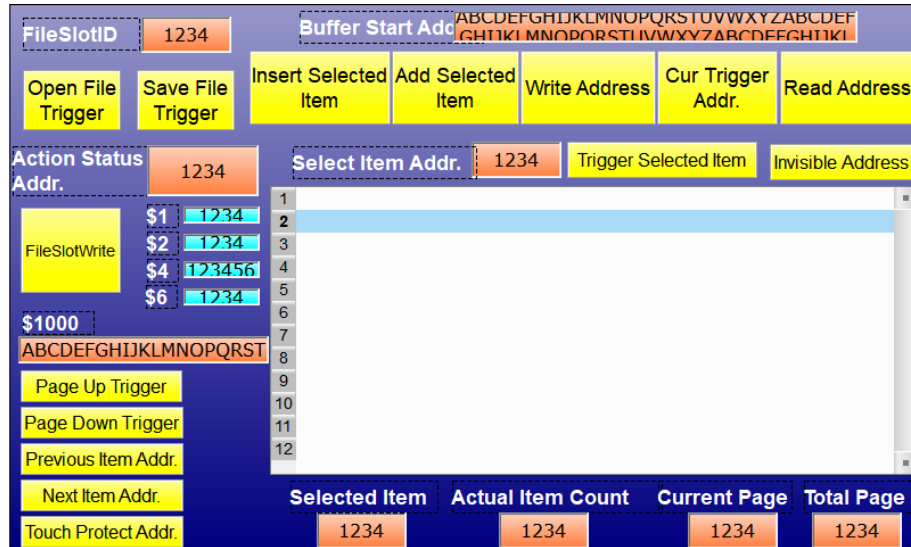


Maintained dialog box showing the Macro tab with the command: 1 \$1 = FileSlotWrite(\$2, \$1000, \$4, \$6)

Text List

Create elements

Create the elements with the memory addresses set as shown on page 46. The configuration is as follows.



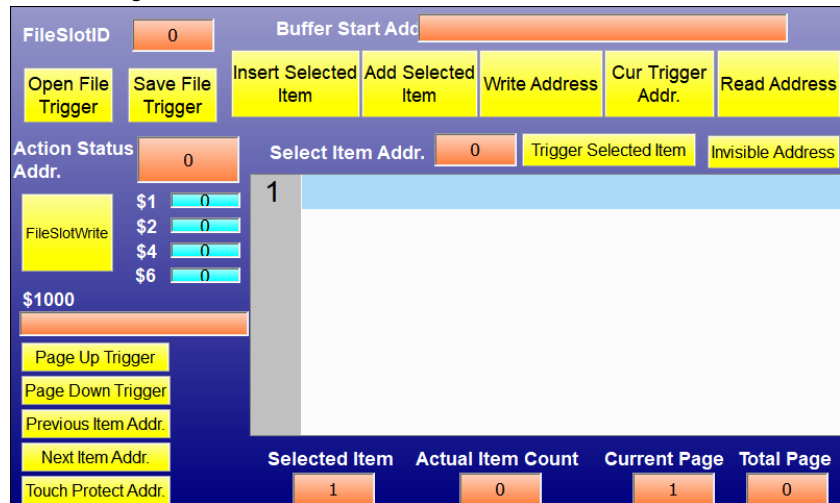
The screenshot shows the HMI configuration interface for the 'Text List' screen. It includes various input fields and buttons for configuring the screen's elements. The 'FileSlotID' is set to 1234, and the 'Buffer Start Addr' is set to ABCDEFGHIJKLMNOPQRSTUVWXYZABCDEFGHIJKLMNOPQRSTUVWXYZABCDEFGHIJKL. The 'Action Status Addr.' is set to 1234, and the 'Select Item Addr.' is set to 1234. The 'Trigger Selected Item' button is highlighted. The 'FileSlotWrite' section shows a list of addresses: \$1 (1234), \$2 (1234), \$4 (123456), \$6 (1234), and \$1000 (ABCDEFGHIJKLMNOPQRST). The 'Page Up Trigger', 'Page Down Trigger', 'Previous Item Addr.', 'Next Item Addr.', and 'Touch Protect Addr.' buttons are also visible. The bottom status bar shows 'Selected Item' (1234), 'Actual Item Count' (1234), 'Current Page' (1234), and 'Total Page' (1234).

Execution results

Download the screen

Compile and download the elements to the HMI.

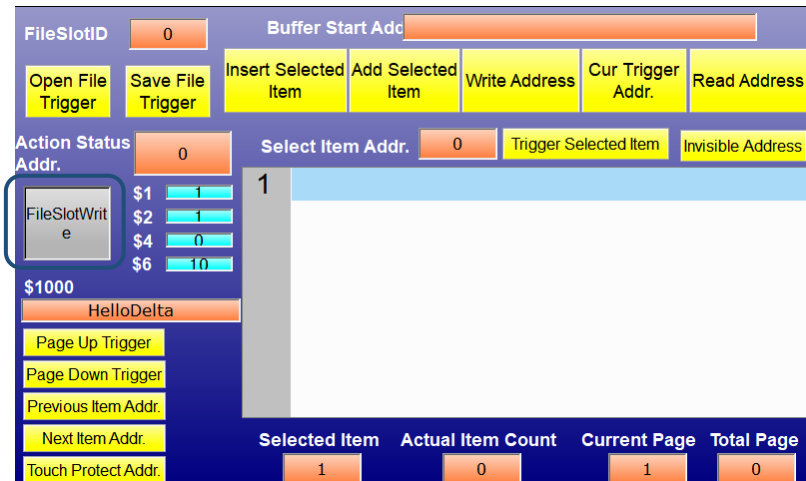
After downloading, the HMI screen is as follows.



The screenshot shows the HMI execution interface for the 'Text List' screen. It displays the same layout as the configuration screen, but with the values set to 0. The 'FileSlotID' is 0, and the 'Buffer Start Addr' is empty. The 'Action Status Addr.' is 0, and the 'Select Item Addr.' is 0. The 'Trigger Selected Item' button is highlighted. The 'FileSlotWrite' section shows a list of addresses: \$1 (0), \$2 (0), \$4 (0), \$6 (0), and \$1000 (0). The 'Page Up Trigger', 'Page Down Trigger', 'Previous Item Addr.', 'Next Item Addr.', and 'Touch Protect Addr.' buttons are also visible. The bottom status bar shows 'Selected Item' (1), 'Actual Item Count' (0), 'Current Page' (1), and 'Total Page' (0).

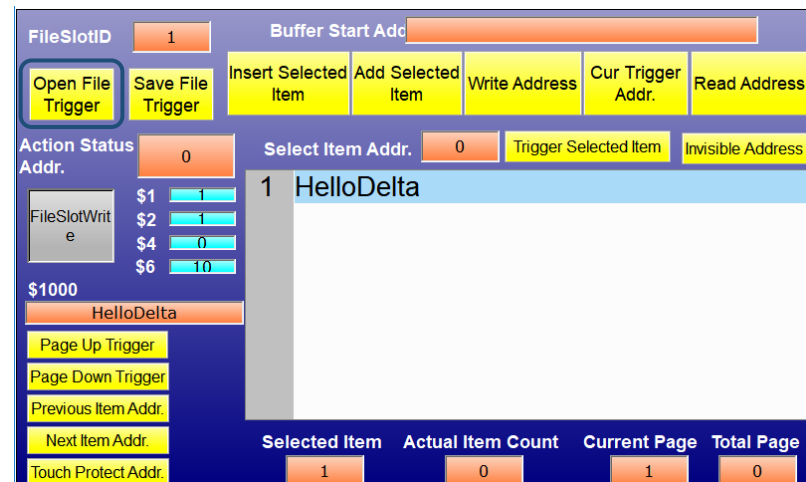
Text List

- Enter "1" to \$2, "10" to \$6, and "HelloDelta" to the Character Entry element which address is \$1000. Press the Maintained button **FileSlotWrite** to write the strings to the FileSlot, completing the file creation.



The screenshot shows the FileSlotWrite interface. At the top, FileSlotID is 0 and Buffer Start Addr is empty. Below are buttons: Open File Trigger, Save File Trigger, Insert Selected Item, Add Selected Item, Write Address, Cur Trigger Addr., and Read Address. The Action Status Addr. is 0. On the left, there are sliders for \$1 (1), \$2 (1), \$4 (0), and \$6 (10). Below these is a text entry field with "HelloDelta" and a \$1000 label. At the bottom, there are buttons for Page Up Trigger, Page Down Trigger, Previous Item Addr., Next Item Addr., and Touch Protect Addr. A table at the bottom right shows: Selected Item (1), Actual Item Count (0), Current Page (1), and Total Page (0).

- Enter "1" to the FileSlotID field and press **Open File Trigger** to open the file.



The screenshot shows the FileSlotWrite interface after pressing the Open File Trigger. FileSlotID is now 1. The Open File Trigger button is highlighted. The text entry field now contains "HelloDelta". The Action Status Addr. is still 0. The sliders for \$1, \$2, \$4, and \$6 remain the same. The \$1000 label and the HelloDelta text entry field are still present. The bottom buttons and the table (Selected Item: 1, Actual Item Count: 0, Current Page: 1, Total Page: 0) are also visible.

Execution results

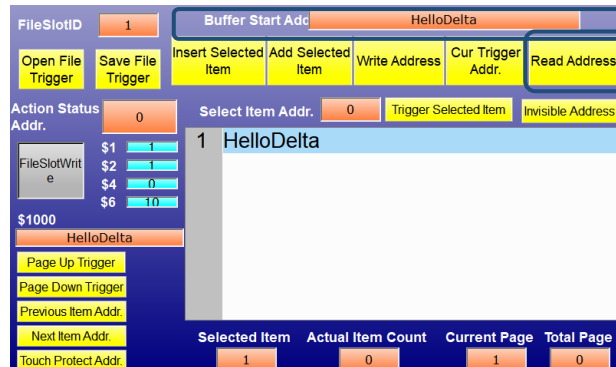
Create FileSlot file

Text List

Open the FileSlot file with the Text List element and use the functions of Read Address, Write Address, Cut Trigger Addr., Add Selected Item, Insert Selected Item, and Buffer Start Addr. to edit the text.

Read Address

Select the string to be read, press **Read Address**, and the selected string is copied to the Buffer Start Addr. field.



FileSlotID: 1, Buffer Start Addr: HelloDelta

Open File Trigger, Save File Trigger, Insert Selected Item, Add Selected Item, Write Address, Cur Trigger Addr., Read Address

Action Status Addr.: 0, Select Item Addr.: 0, Trigger Selected Item, Invisible Address

FileSlotWrite: \$1: 1, \$2: 1, \$4: 0, \$6: 10, \$1000: HelloDelta

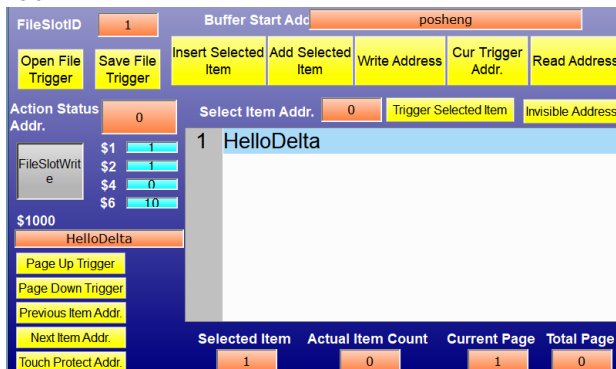
Page Up Trigger, Page Down Trigger, Previous Item Addr., Next Item Addr., Touch Protect Addr.

Selected Item: 1, Actual Item Count: 0, Current Page: 1, Total Page: 0

Enter a string to the Buffer Start Addr. field and press **Insert Selected Item**, and then the string is inserted before the selected line.

Before inserting

Select the 1st line and enter "posheng" to the Buffer Start Addr. field.



FileSlotID: 1, Buffer Start Addr: posheng

Open File Trigger, Save File Trigger, Insert Selected Item, Add Selected Item, Write Address, Cur Trigger Addr., Read Address

Action Status Addr.: 0, Select Item Addr.: 0, Trigger Selected Item, Invisible Address

FileSlotWrite: \$1: 1, \$2: 1, \$4: 0, \$6: 10, \$1000: HelloDelta

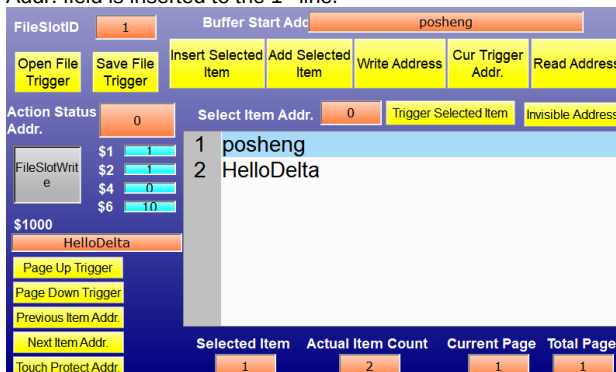
Page Up Trigger, Page Down Trigger, Previous Item Addr., Next Item Addr., Touch Protect Addr.

Selected Item: 1, Actual Item Count: 0, Current Page: 1, Total Page: 0

Insert Selected Item

After inserting

Press **Insert Selected Item** and the string in the Buffer Start Addr. field is inserted to the 1st line.



FileSlotID: 1, Buffer Start Addr: posheng

Open File Trigger, Save File Trigger, Insert Selected Item, Add Selected Item, Write Address, Cur Trigger Addr., Read Address

Action Status Addr.: 0, Select Item Addr.: 0, Trigger Selected Item, Invisible Address

FileSlotWrite: \$1: 1, \$2: 1, \$4: 0, \$6: 10, \$1000: HelloDelta

Page Up Trigger, Page Down Trigger, Previous Item Addr., Next Item Addr., Touch Protect Addr.

Selected Item: 1, Actual Item Count: 2, Current Page: 1, Total Page: 1

Execution results

Edit the text

Text List

Enter a string to the Buffer Start Addr. field and press **Add Selected Item**, and then the string is added after the selected line.

Before adding

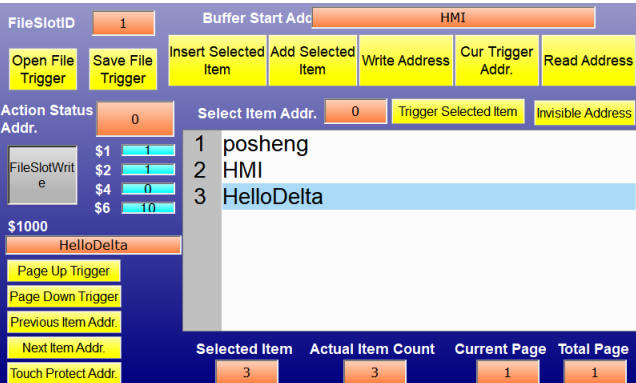
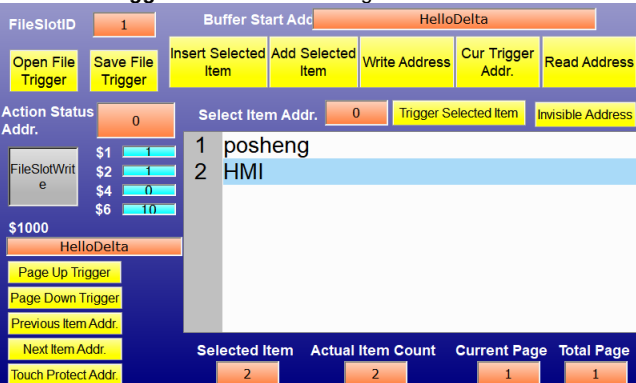
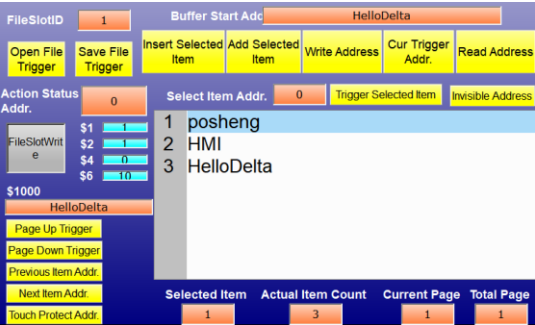
Select the 1st line and enter "HMI" to the Buffer Start Addr. field.

FileSlotID	1	Buffer Start Addr	HMI
Open File Trigger	Save File Trigger	Insert Selected Item	Add Selected Item
Write Address	Cur Trigger Addr.	Read Address	
Action Status Addr.	0	Select Item Addr.	0
Trigger Selected Item	Invisible Address		
\$1	1	1	posheng
\$2	1	2	HelloDelta
\$4	0		
\$6	10		
\$1000			
HelloDelta			
Page Up Trigger			
Page Down Trigger			
Previous Item Addr.			
Next Item Addr.			
Touch Protect Addr.	1	Actual Item Count	2
		Current Page	1
		Total Page	1

After adding

Press **Add Selected Item** and the string in the Buffer Start Addr. field is inserted after the selected line.

FileSlotID	1	Buffer Start Addr	HMI
Open File Trigger	Save File Trigger	Insert Selected Item	Add Selected Item
Write Address	Cur Trigger Addr.	Read Address	
Action Status Addr.	0	Select Item Addr.	0
Trigger Selected Item	Invisible Address		
\$1	1	1	posheng
\$2	1	2	HMI
\$4	0	3	HelloDelta
\$6	10		
\$1000			
HelloDelta			
Page Up Trigger			
Page Down Trigger			
Previous Item Addr.			
Next Item Addr.			
Touch Protect Addr.	2	Actual Item Count	3
		Current Page	1
		Total Page	1

Text List			
Execution results	Edit the text	Cut Trigger Addr.	Select the string to be deleted and press Cut Trigger Addr., and then the string is deleted.
			Select the 3rd line. 
			Press Cut Trigger Addr. and the string is deleted. 
	Switch to specific line	Page Up Trigger	■ Press Page Up Trigger, Page Down Trigger, Previous Item Addr., or Next Item Addr. to switch to the specific line. When the text messages are within one page, the first line is selected if you press Page Up Trigger and the last line is selected if you press Page Down Trigger.
			

Text List

Page
Down
Trigger

FileSlotID	1	Buffer Start Addr	HelloDelta			
Open File Trigger	Save File Trigger	Insert Selected Item	Add Selected Item	Write Address	Cur Trigger Addr.	Read Address
Action Status Addr.	0	Select Item Addr.	0	Trigger Selected Item	Invisible Address	
FileSlotWrite	\$1 1 \$2 1 \$4 0 \$6 10	1 posheng 2 HMI 3 HelloDelta				
\$1000	HelloDelta					
Page Up Trigger						
Page Down Trigger						
Previous Item Addr.						
Next Item Addr.						
Touch Protect Addr.	3	Actual Item Count	3	Current Page	1	Total Page
					1	1

- Set the Select Item Addr. and press **Trigger Selected Item**, and then the HMI selects the line specified in the Selected Item Addr. field.

Execution
results

Switch to
specific
line

Before
selecting

FileSlotID	1	Buffer Start Addr	HelloDelta			
Open File Trigger	Save File Trigger	Insert Selected Item	Add Selected Item	Write Address	Cur Trigger Addr.	Read Address
Action Status Addr.	0	Select Item Addr.	0	Trigger Selected Item	Invisible Address	
FileSlotWrite	\$1 1 \$2 1 \$4 0 \$6 10	1 posheng 2 HMI 3 HelloDelta				
\$1000	HelloDelta					
Page Up Trigger						
Page Down Trigger						
Previous Item Addr.						
Next Item Addr.						
Touch Protect Addr.	3	Actual Item Count	3	Current Page	1	Total Page
					1	1

After
selecting

FileSlotID	1	Buffer Start Addr	HelloDelta			
Open File Trigger	Save File Trigger	Insert Selected Item	Add Selected Item	Write Address	Cur Trigger Addr.	Read Address
Action Status Addr.	0	Select Item Addr.	1	Trigger Selected Item	Invisible Address	
FileSlotWrite	\$1 1 \$2 1 \$4 0 \$6 10	1 posheng 2 HMI 3 HelloDelta				
\$1000	HelloDelta					
Page Up Trigger						
Page Down Trigger						
Previous Item Addr.						
Next Item Addr.						
Touch Protect Addr.	1	Actual Item Count	3	Current Page	1	Total Page
					1	1

Text List																					
Execution results	Save	Language.txt - Notepad File Edit Format View Help posheng HMI HelloDelta The document has been modified. Do you want to save your changes? YES NO																			
	Touch Protect Addr.	When the Touch Protect Addr. is On, the Text List element is unavailable and the Action Status Addr. is 13.																			
	Invisible Address	If the set Invisible Address is On, the Text List element is invisible and the Action Status Addr. is 14.																			
	Action Status Addr.	Refer to the status value for the current state of the text file. <table><tr><th>Status value</th><th>Description</th></tr><tr><td>0</td><td>Null</td></tr><tr><td>1</td><td>Line number does not exist</td></tr><tr><td>3</td><td>File does not exist</td></tr><tr><td>5</td><td>Failed to open file</td></tr><tr><td>6</td><td>Failed to write data</td></tr><tr><td>7</td><td>Open or save the file without specifying the FileSlotID</td></tr><tr><td>13</td><td>Touch protection enabled</td></tr><tr><td>14</td><td>Element is invisible</td></tr><tr><td>16</td><td>The file size exceeds the limit allowed (Maximum file size is 20 MB)</td></tr></table> The controller address (Word) and the internal register address (Word) are supported.	Status value	Description	0	Null	1	Line number does not exist	3	File does not exist	5	Failed to open file	6	Failed to write data	7	Open or save the file without specifying the FileSlotID	13	Touch protection enabled	14	Element is invisible	16
Status value	Description																				
0	Null																				
1	Line number does not exist																				
3	File does not exist																				
5	Failed to open file																				
6	Failed to write data																				
7	Open or save the file without specifying the FileSlotID																				
13	Touch protection enabled																				
14	Element is invisible																				
16	The file size exceeds the limit allowed (Maximum file size is 20 MB)																				

Product Announcement

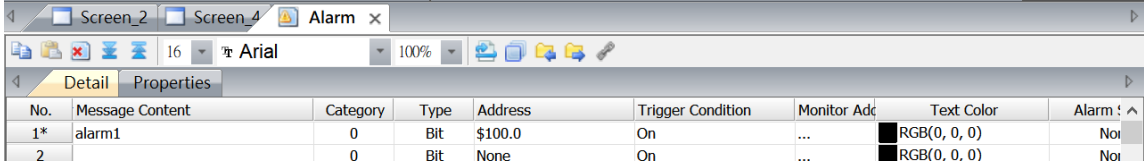
4.9. Add the function of adjusting the field width of the Alarm History Table element.

The added function of adjusting the field width of the Alarm History Table allows the alarm message to be completely displayed.

Alarm History Table

Set alarm

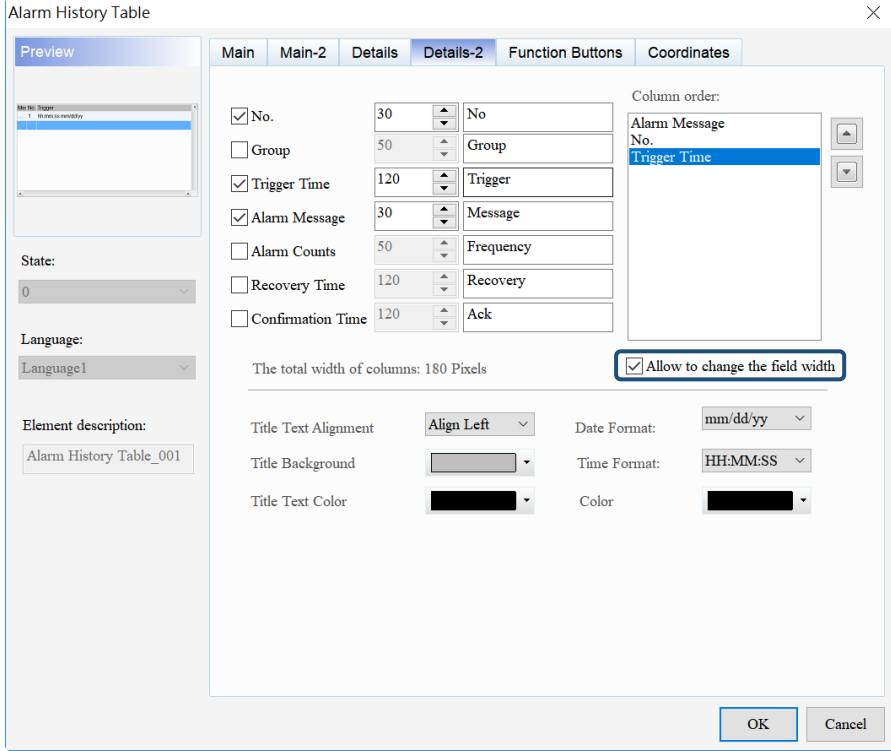
In DOPSoft, go to [Options] > [Alarm Settings] and set the alarm as shown in the following figure.



No.	Message Content	Category	Type	Address	Trigger Condition	Monitor Adc	Text Color	Alarm !
1*	alarm1	0	Bit	\$100.0	On	...	RGB(0, 0, 0)	Not
2		0	Bit	None	On	...	RGB(0, 0, 0)	Not

Create elements

- Create a Maintained button and set the Write Address to \$100.0.
- Create an Alarm History Table. On the Details-2 tab, select the check boxes for **Allow to change the field width**, **No.**, **Trigger Time**, and **Alarm Message**.



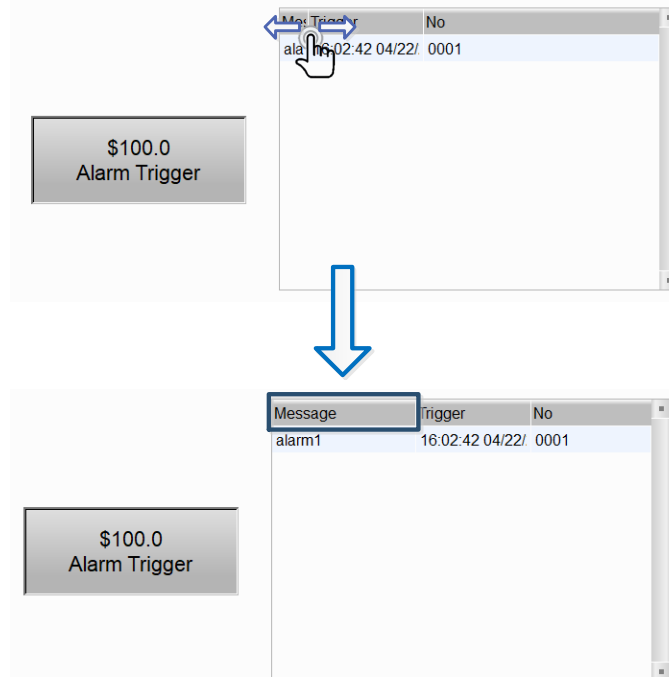
The Alarm History Table configuration dialog box shows the following settings:

- Details-2 tab:**
 - ☒ No. (width: 30)
 - ☐ Group (width: 50)
 - ☒ Trigger Time (width: 120)
 - ☒ Alarm Message (width: 30)
 - ☐ Alarm Counts (width: 50)
 - ☐ Recovery Time (width: 120)
 - ☐ Confirmation Time (width: 120)
- Column order:** Alarm Message, No., Trigger Time
- Allow to change the field width:** ☒
- Title Text Alignment:** Align Left
- Date Format:** mm/dd/yy
- Time Format:** HH:MM:SS
- Title Background:** (Color selection)
- Title Text Color:** (Color selection)
- Color:** (Color selection)

Alarm History Table

- After creating and setting the elements, download the project to the HMI. Trigger \$100.0 and you can see the alarm message in the Alarm History Table.
- Now you can manually adjust the field width as shown in the following figure.

Execution
results



Product Announcement

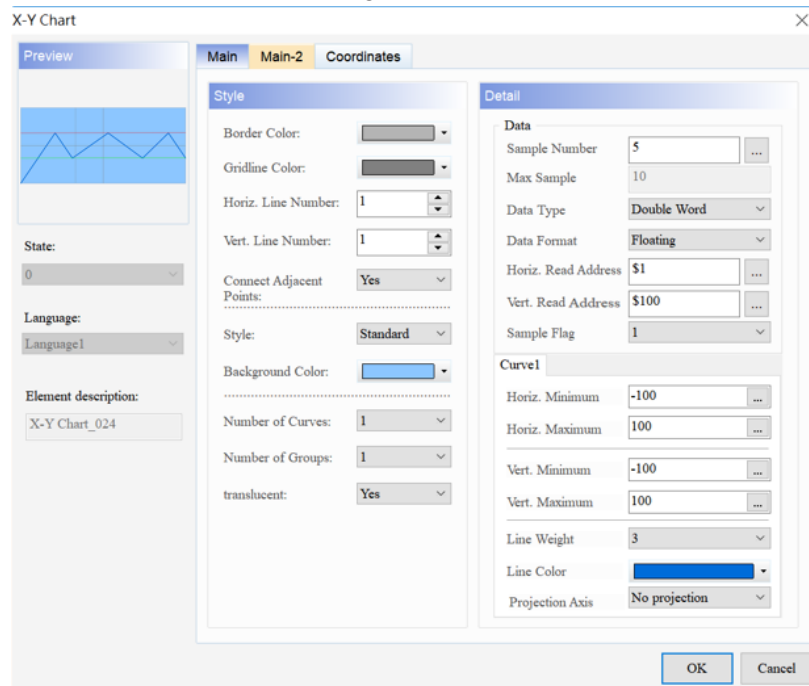
4.10. Add the functions of Enable Value, high / low limit setting for the curve, and the data type Double Word to the X-Y Chart element.

The data type Double Word supports a larger range of values for displaying the curve and it also supports decimals. The Enable Value function allows you to quickly get the X- and Y-coordinates of the current point by touching the element. The high / low limit setting allows you to determine whether the parameter settings meet the expectation.

X-Y Chart

- Create an X-Y Chart element. Set the Sample Number to 5, Data Type to Double Word, Data Format to Floating, Horiz. Read Address to \$1, Vert. Read Address to \$100, Horiz. Minimum to -100, Horiz. Maximum to 100, Vert. Minimum to -100, Vert. Maximum to 100, and Line Weight to 3.

Create X-Y Chart



X-Y Chart

Preview

State: 0

Language: Language1

Element description: X-Y Chart_024

Main | **Main-2** | **Coordinates**

Style

Border Color: [Color Picker]

Gridline Color: [Color Picker]

Horiz. Line Number: 1

Vert. Line Number: 1

Connect Adjacent Points: Yes

Style: Standard

Background Color: [Color Picker]

Number of Curves: 1

Number of Groups: 1

translucent: Yes

Detail

Data

Sample Number: 5

Max Sample: 10

Data Type: Double Word

Data Format: Floating

Horiz. Read Address: \$1

Vert. Read Address: \$100

Sample Flag: 1

Curve1

Horiz. Minimum: -100

Horiz. Maximum: 100

Vert. Minimum: -100

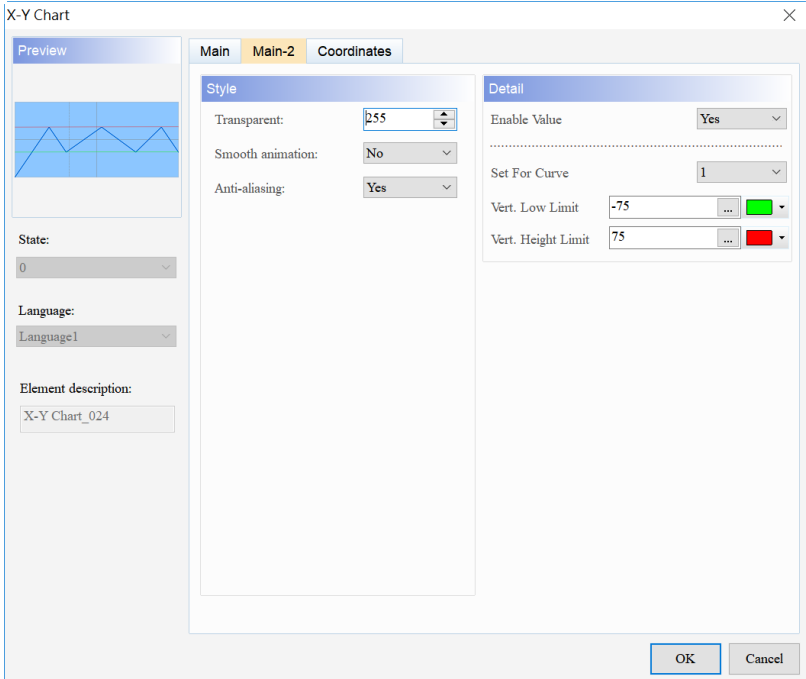
Vert. Maximum: 100

Line Weight: 3

Line Color: [Color Picker]

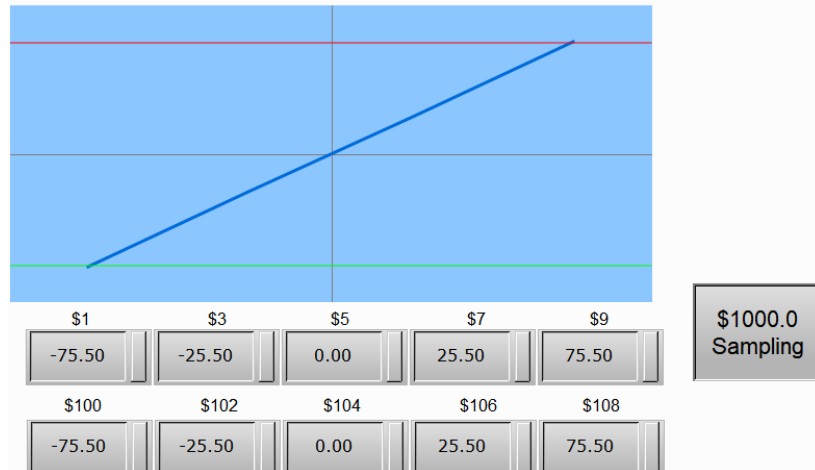
Projection Axis: No projection

OK Cancel

X-Y Chart	
Create X-Y Chart	On the Main-2 tab, set the Enable Value to Yes, Set For Curve to 1, Vert. Low Limit to -75, and Vert. Height Limit to 75. 
Set Control Block	In DOPSoft, go to [Options] > [Configuration] > [Main] > [Control Block], and set the Start Address to \$1000 and select the check box for Curve Control .
Set elements	- Create ten Numeric Entry elements. Set the Data Type to Double Word, Data Format to Floating, and Write Addresses to \$1, \$3, \$5, \$7, \$9, \$100, \$102, \$104, \$106, and \$108 respectively. - Create a Maintained button and set the Write Address to \$1000.0.

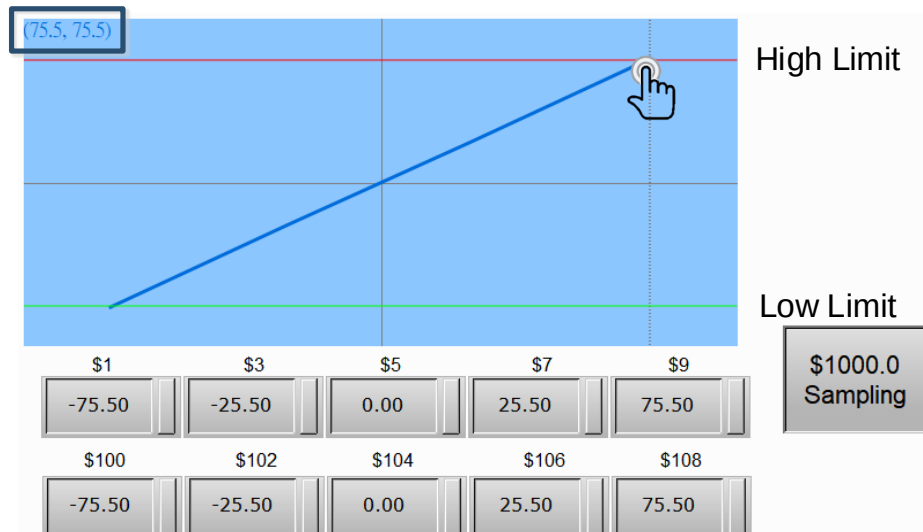
X-Y Chart

- After creating and setting the elements, download the project to the HMI.
- Enter any values to \$1, \$3, \$5, \$7, \$9, \$100, \$102, \$104, \$106, and \$108, and then press the Maintained button **\$1000.0** to draw the curve with the Curve Control function.



Execution results

- You can press any point on the curve to get the coordinates of a specific point.



Product Announcement

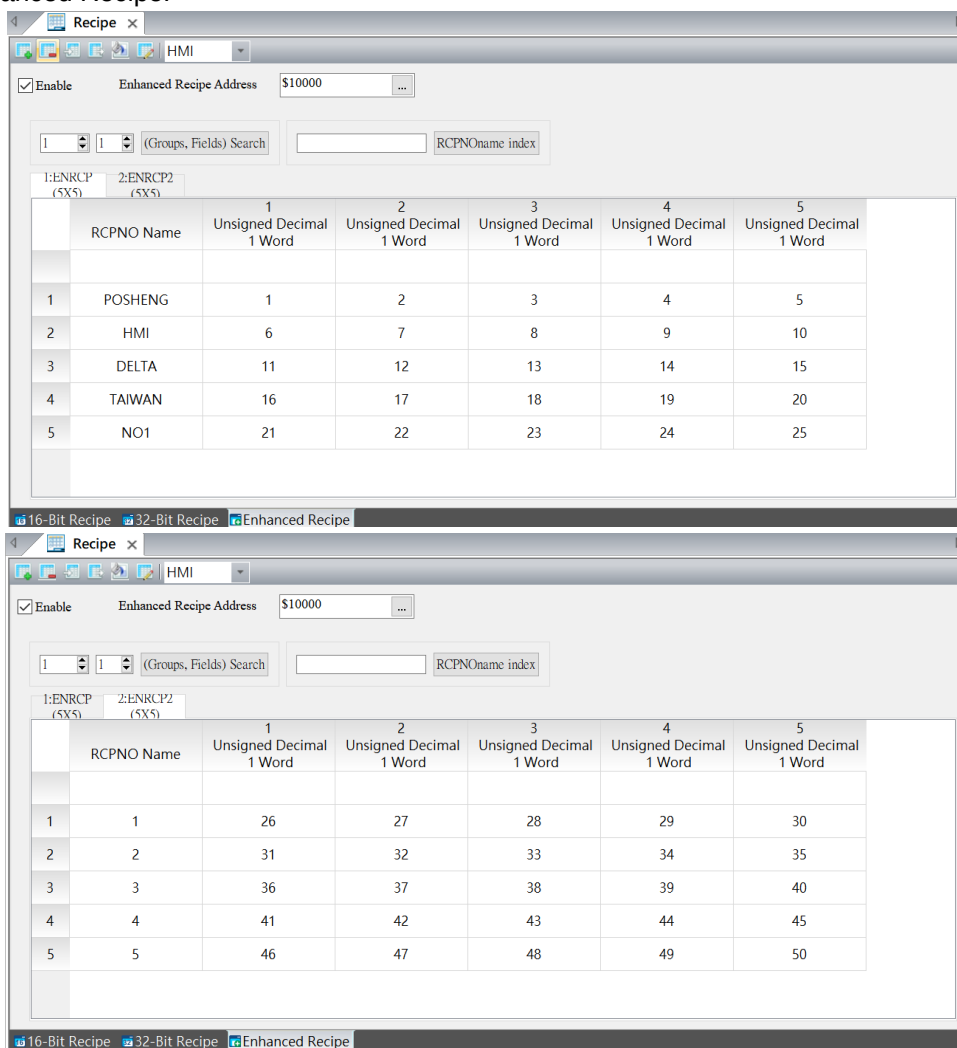
4.11. Add the ENRCP Viewer element.

Users used to display the recipe parameters on the HMI by using the GridBox element with the recipe addresses, which is complex and inflexible. The added ENRCP Viewer element allows you to check each recipe parameter and modify the parameter on the HMI. Refer to the following example.

ENRCP Viewer

In DOPSoft, go to [Options] > [Recipe] > [Enhanced Recipe] and create two sets of Enhanced Recipe.

Set Enhanced Recipe



The screenshot displays the ENRCP Viewer interface in DOPSoft. It shows two sets of Enhanced Recipe data, labeled 1:ENRCP (5X5) and 2:ENRCP2 (5X5). Each set is presented in a table with 5 rows and 5 columns of data. The first column is the RCPNO Name, and the subsequent columns are Unsigned Decimal 1 Word values.

Set 1: ENRCP (5X5)

	RCPNO Name	Unsigned Decimal 1 Word	Unsigned Decimal 1 Word	Unsigned Decimal 1 Word	Unsigned Decimal 1 Word	Unsigned Decimal 1 Word
1	POSHENG	1	2	3	4	5
2	HMI	6	7	8	9	10
3	DELTA	11	12	13	14	15
4	TAIWAN	16	17	18	19	20
5	NO1	21	22	23	24	25

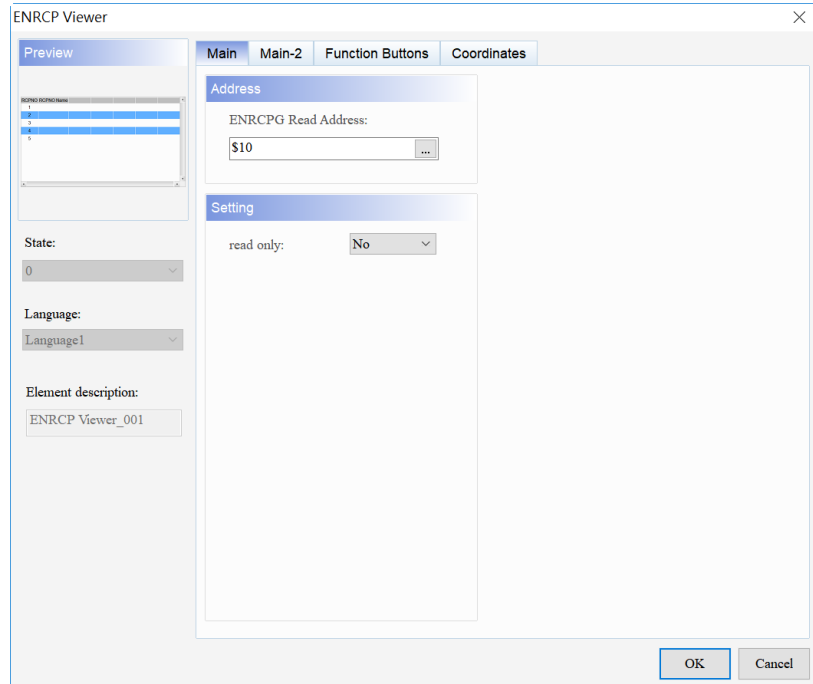
Set 2: ENRCP2 (5X5)

	RCPNO Name	Unsigned Decimal 1 Word	Unsigned Decimal 1 Word	Unsigned Decimal 1 Word	Unsigned Decimal 1 Word	Unsigned Decimal 1 Word
1	1	26	27	28	29	30
2	2	31	32	33	34	35
3	3	36	37	38	39	40
4	4	41	42	43	44	45
5	5	46	47	48	49	50

Enhanced Recipe

Create elements

- Create an ENRCP Viewer element, and set the ENRCPG Read Address to \$10 and read only to No.

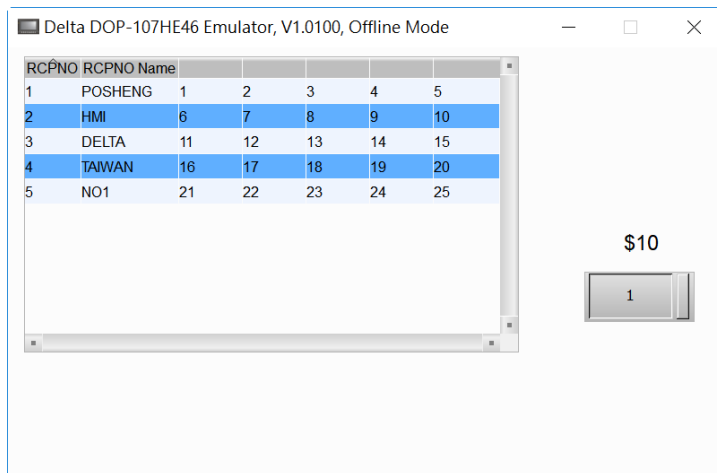


The ENRCP Viewer configuration window is shown with the following settings:

- Address:** ENRCPG Read Address: \$10
- Setting:** read only: No
- State:** 0
- Language:** Language1
- Element description:** ENRCP Viewer_001

- Create a Numeric Entry element and set the Write Address to \$10.
- After creating and setting the elements, download the project to the HMI.
- Enter "1" to \$10 and you can check the recipe parameters of the 1st set of Enhanced Recipe with the ENRCP Viewer.

Execution results



The Delta DOP-107HE46 Emulator screenshot shows the RCPNO table and the Numeric Entry field.

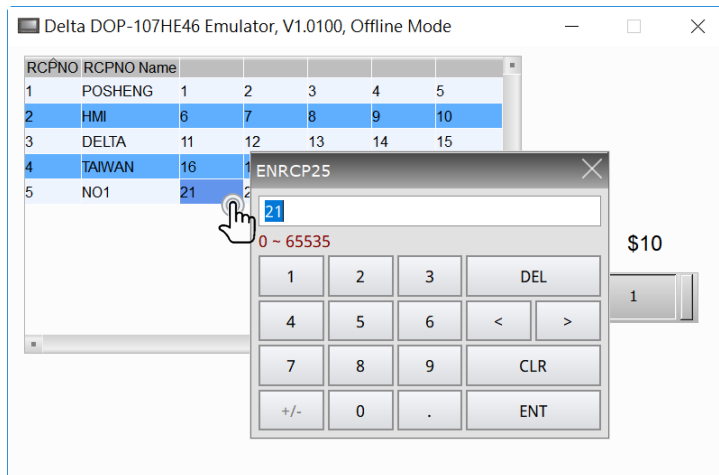
RCPNO	RCPNO Name	1	2	3	4	5
1	POSHENG	1	2	3	4	5
2	HMI	6	7	8	9	10
3	DELTA	11	12	13	14	15
4	TAIWAN	16	17	18	19	20
5	NO1	21	22	23	24	25

The Numeric Entry field is labeled \$10 and contains the value 1.

Enhanced Recipe

- You can also click the ENRCP Viewer element to modify the recipe parameters. Note that if the read only on the Main tab is set to Yes, any modifications are not allowed.

Execution results



Product Announcement

4.12. Add the function of changing the connection port of VNC in the HMI system menu.

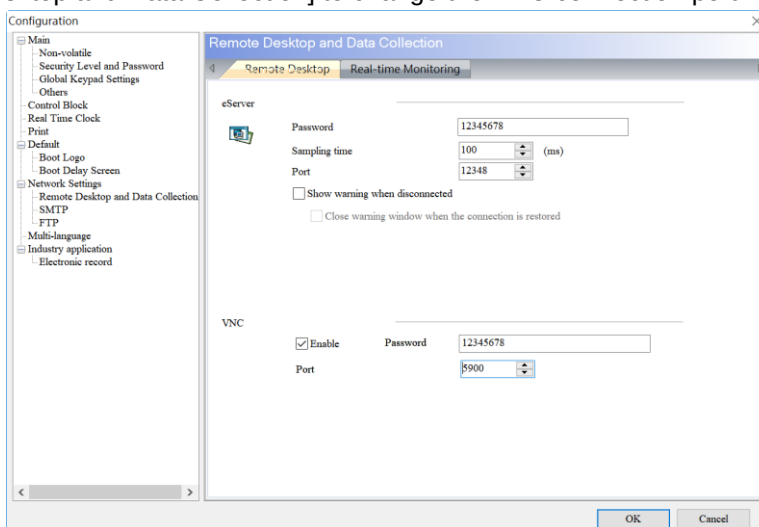
The added function allows you to change the VNC port either in the DOPSoft or on the HMI. Refer to the following example.

VNC

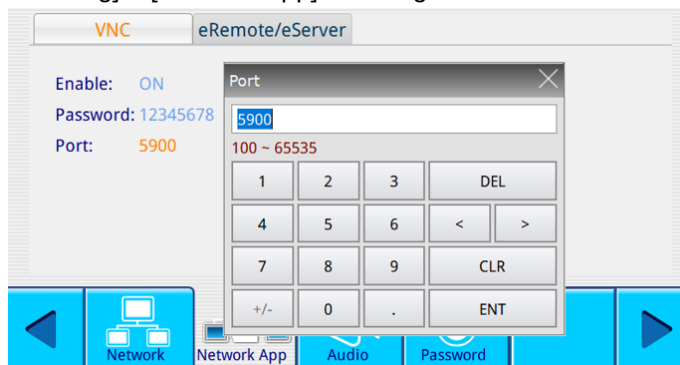
Function
description

There are two options to change the VNC port.

Option 1: in DOPSoft, go to [Options] > [Configuration] > [Network Settings] > [Remote Desktop and Data Collection] to change the VNC connection port.



Option 2: on the HMI, press and hold the screen for 3 seconds to go to [System Menu] > [System Setting] > [Network App] to change the VNC connection port.



Product Announcement

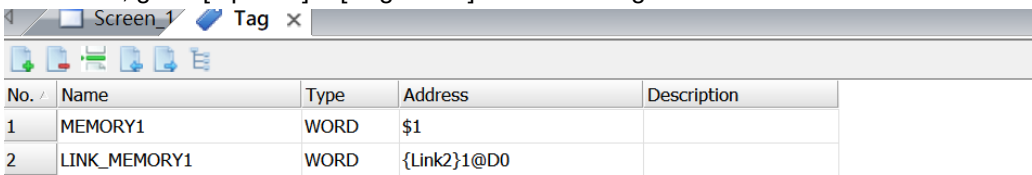
4.13. Add the OPC UA Server function.

Use the HMI as the OPC UA Server for the OPC UA Client to communicate with the HMI to access the values in the Tag table. (Note that this function is only available on the 12" and 15" HMIs.)

OPC UA

Set Tag Table

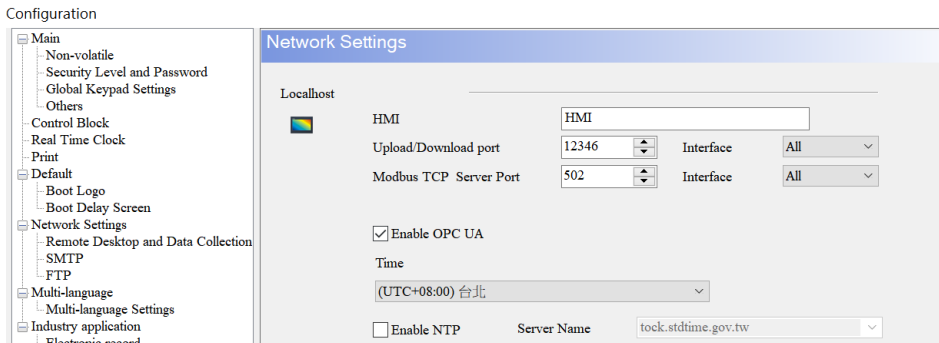
In DOPSoft, go to [Options] > [Tag Table] to set the Tag table.



No. /	Name	Type	Address	Description
1	MEMORY1	WORD	\$1	
2	LINK_MEMORY1	WORD	{Link2}1@D0	

Set OPC UA function

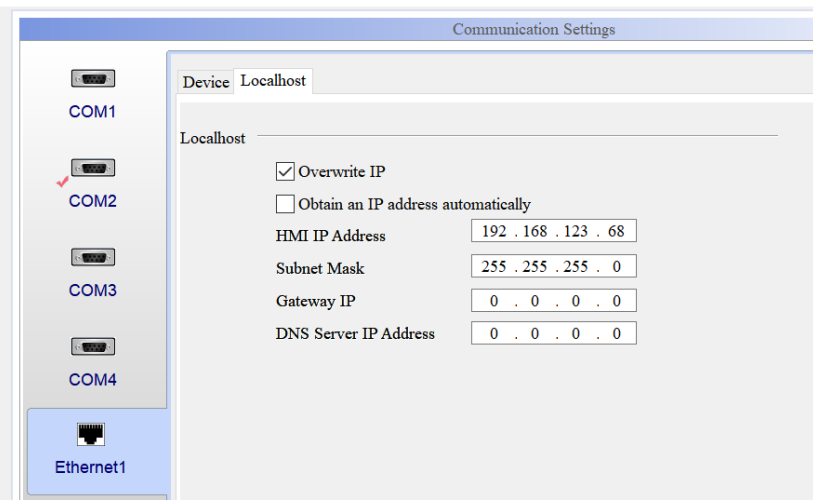
In DOPSoft, go to [Options] > [Configuration] > [Network Settings] to enable the OPC UA function.



Set HMI IP address

In DOPSoft, go to [Options] > [Communication Settings] > [Ethernet1] > [Localhost] to set the HMI IP address which the OPC UA Client can connect to.

Communication Settings

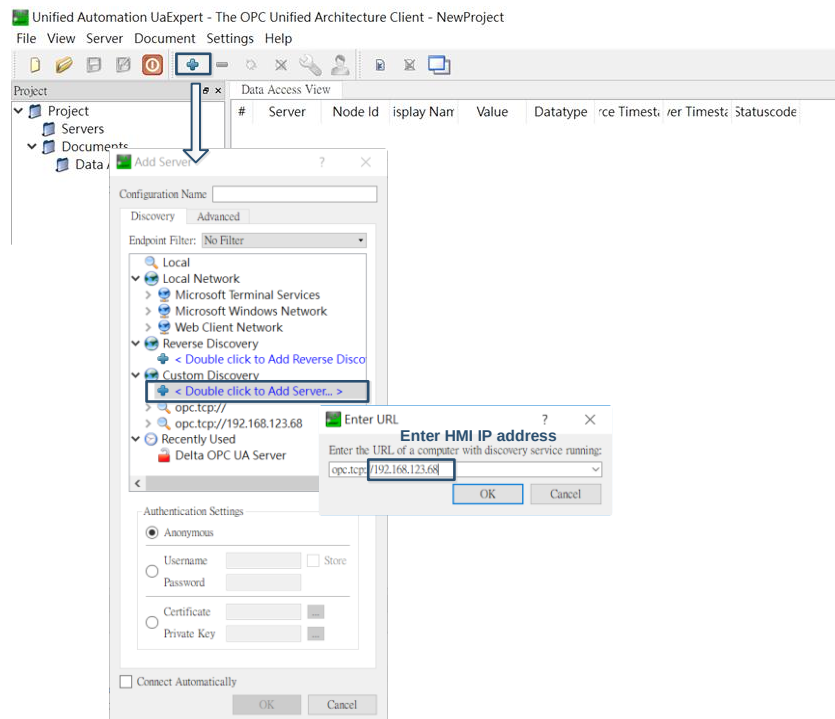


OPC UA

- After creating the elements, compile and download the elements to the HMI.
- Use the OPC UA Client software to connect to the HMI. The following illustrates using the third-party software UaExpert to connect to Delta's HMI.

Step 1: press the  button and enter the HMI IP address for connection.

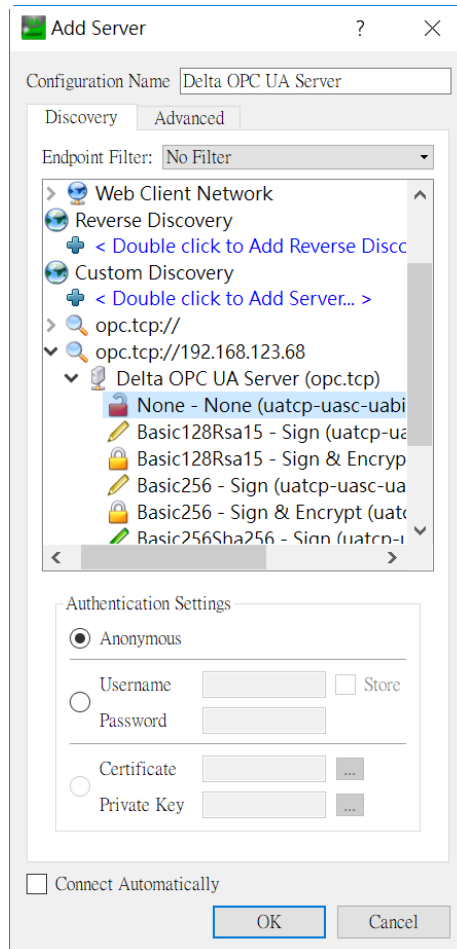
Execution results



OPC UA

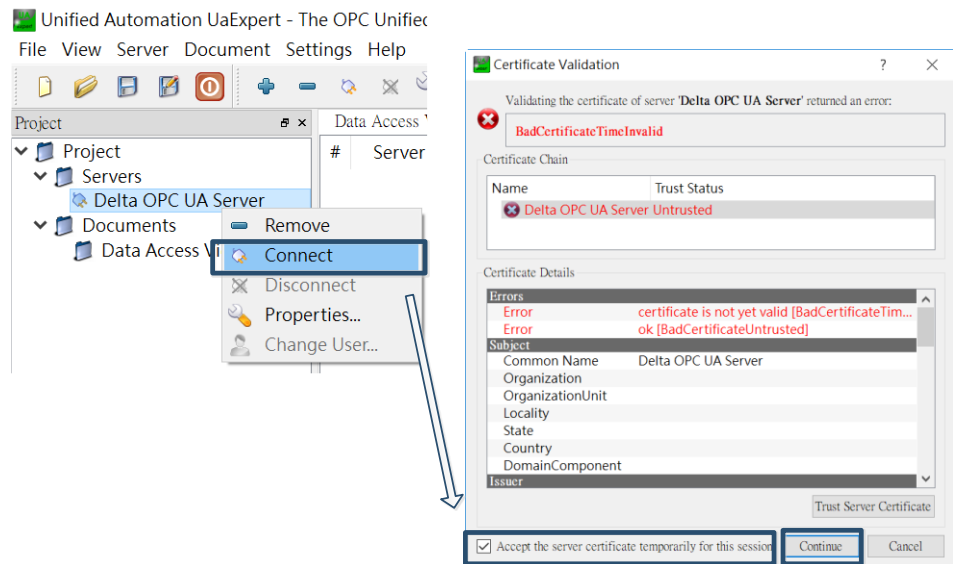
Step 2: press **OK** and go to [Custom Discovery] > [opc.tcp://192.168.123.68] > [Delta OPC UA Server (opc.tcp)] > [None - None (uatcp-usac-uabinary)] without setting the Authentication Settings.

Execution results



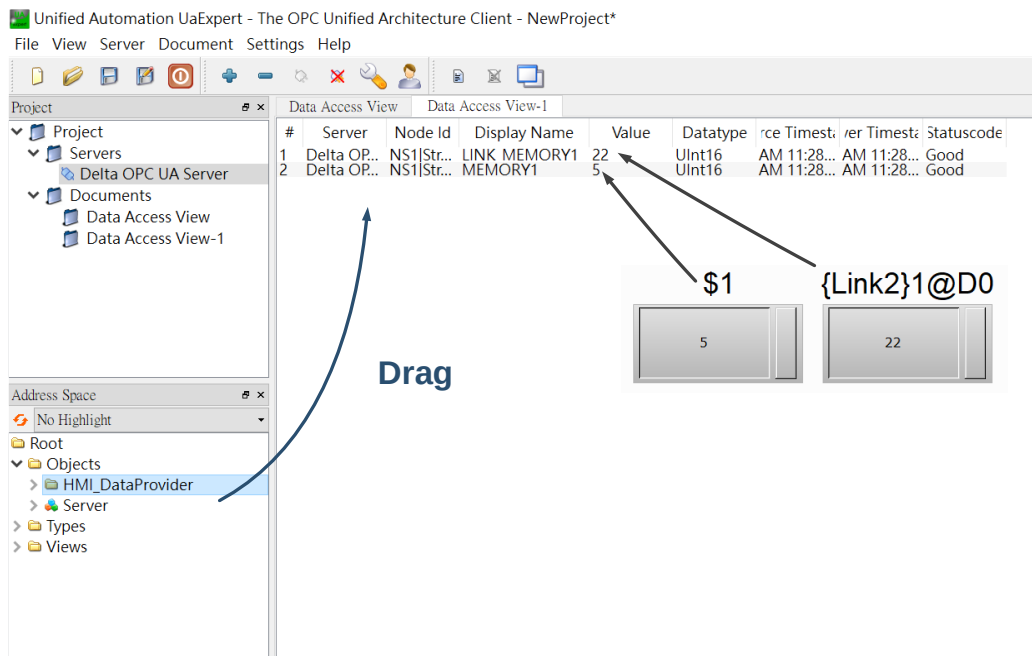
OPC UA

Step 3: after completing the settings, go to [Project] > [Servers] > [Delta OPC UA Server] on the left of the user interface and right-click **Delta OPC UA Server** to establish the connection.



Execution results

- Go to [Root] > [Objects] and drag [HMI_DataProvider] to the Data Access View field, and then you can check the values in the Tag table.



Product Announcement

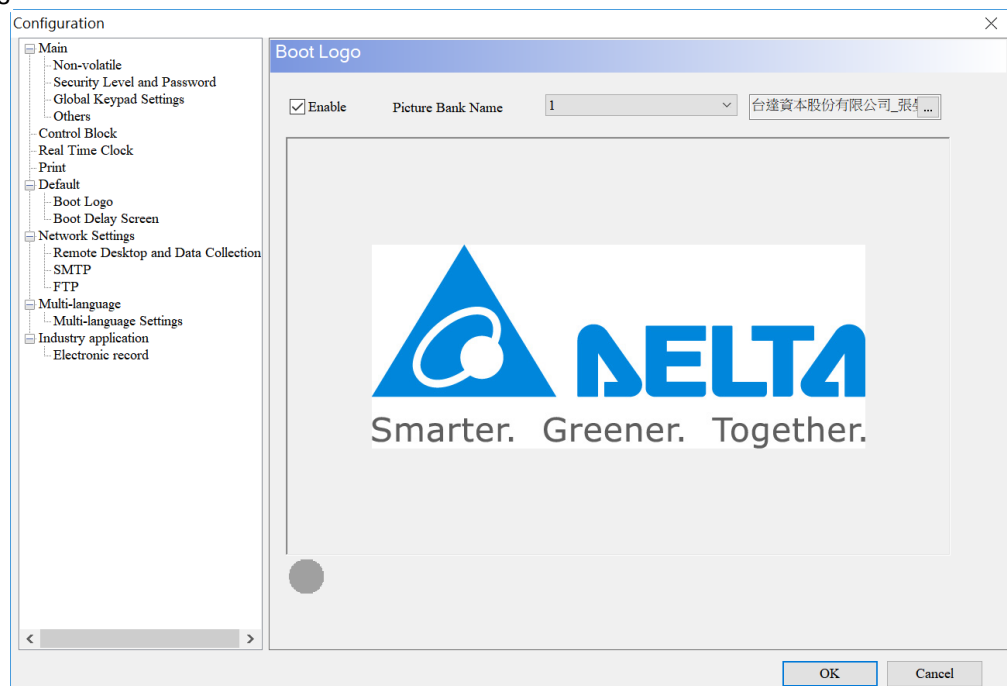
- 4.14. Add the function of using the screen logo created by [Create Screen Data File ...] and [Create Auto Update Data File] as the startup screen.

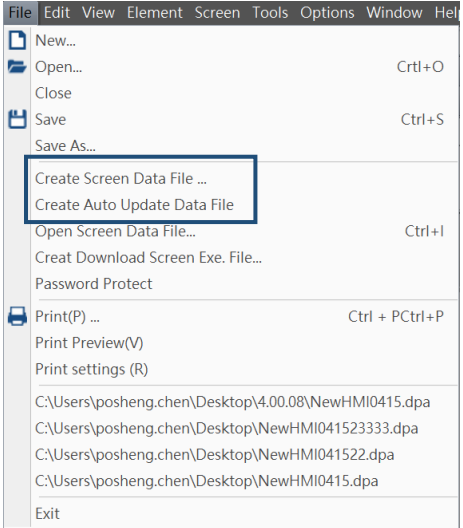
Use the [Create Screen Data File ...] or [Create Auto Update Data File] function to create the screen file, download the screen to the HMI, and save it to an external storage device (USB disk or SD card) to update the HMI startup screen. Then, the HMI displays the updated screen logo when starting.

Screen logo

In DOPSoft, go to [Options] > [Configuration] > [Default] > [Boot Logo] to set a screen logo.

Set startup screen



Screen logo	
Create screen file	In DOPSoft, go to [File] > [Create Screen Data File ...] or [Create Auto Update Data File] to create a screen file. 
Execution results	Save the created screen file to the USB disk and insert the USB disk to the HMI to download the startup screen to the HMI. Restart the HMI and the screen displays the updated screen logo. 

Product Announcement

- 5.1 Add the communication protocols of Delta ES3 PLC, Delta ES3 PLC TCP, and CODESYS.

Table 5.1.1 List of added PLC models

Brand	Connection mode	Model number
Delta	COM	Delta ES3 PLC
	Ethernet	Delta ES3 PLC TCP
CODESYS	Ethernet	Models which support the CODESYS communication protocol

- 6.1 Add the EPSON LX-310 (9-pin) printer and the Micro Printer SPRT TL21 thermal barcode printer.

Table 6.1.1 List of added printer models

Brand	Model number
EPSON	EPSON LX-310 (9-pin)
Micro Printer	SPRT TL21